



DIRECTORATE OF DISTANCE EDUCATION
GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY
HISAR, HARYANA
ESTABLISHED BY STATE LEGISLATURE ACT 17 OF 1995
(‘A+’ GRADE NAAC ACCREDITED)



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Name of Programme:-

Master of Business Administration (MBA)

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PROGRAMME PROJECT REPORT (PPR)
OF
MASTER OF BUSINESS
ADMINISTRATION (MBA) In ODL MODE

Specialization: Finance Management, Human Resource Management, Marketing Management, International Business Management, Production and Operations Management, Information Technology Management

TWO YEARS (FOUR SEMESTERS) PROGRAMME
Choice Based Credit System (or) Open Choice Education
(Effective from Session 2022-23)



DIRECTORATE OF DISTANCE
EDUCATION
GURU JAMBHESHWAR UNIVERSITY OF SCIENCE
AND TECHNOLOGY HISAR-125001, HARYANA

(YEAR-2022-23)

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PROGRAMME PROJECT REPORT (PPR)

MASTER OF BUSINESS ADMINISTRATION (MBA)

PROGRAMME'S MISSION & OBJECTIVE

• MISSION OF PROGRAMME

The Master of Business Administration (MBA) Programme has been started with a mission of the university to achieve excellence by introducing innovative job oriented courses for achieving the goal of holistic human development by promoting higher education in niche areas of management by establishing purposeful linkages with industry and professional bodies, and promoting quality of work life.

• OBJECTIVES OF PROGRAMME

- To provide alternative mode of affordable quality education in the field of management.
- To impart knowledge and necessary skills to the young graduates in emerging areas of management like HR, marketing, finance, production and operations management, IT, IB, Business analytics, accounting, auditing and business laws etc.
- To prepare young graduates by skilling them with desired competence in management education and research.
- To equip the students with management and related functional areas like finance, marketing, HRM, production and operations management, IT and IB by enhancing their analytical skills.
- To develop and strengthen theoretical, and applied aspects of management education.
- To promote job oriented approach among young graduates.
- To enable the learners about the latest trends in management education and profession.

RELEVANCE OF THE PROGRAMME WITH HIGHER EDUCATIONAL INSTITUTION'S (HEI'S) MISSION & GOALS

• HEI'S MISSION:

The University aspires to be a globally recognized Centre of excellence in the field of technical education and research. It strives to achieve this by introducing innovative job oriented courses, employing competent and motivated faculty, developing state-of-the-art infrastructure, striking purposeful linkages with industry and professional bodies, and promoting quality of work life. The University focuses on the student community to imbue them with passion for knowledge and creativity and to promote sustainable growth in academic resources, student placements, and holistic human development with a strong conviction for professional ethical, social and environmental issues.

• HEI'S GOALS

The goals of the University as enshrined in the Act are to facilitate and promote studies and research in emerging

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areas of higher education with focus on new frontiers of and also to achieve excellence in these and connected fields.

• PROGRAMMES OFFERED TO ACHIEVE HEI'S MISSION AND GOALS

The HEI's mission and goals are holistically inherited in the MBA programme (Master of Business Administration) of Directorate of Distance Education. Scheme and syllabus of this program is designed by Board of Studies and the same is approved by Academic Council. In 2022-23, same scheme and syllabus for distance programme in line with the Regular mode is adopted as per ODL guidelines of UGC. Latest and updated curriculum is used for this course. MBA is most sought programme after graduation for the students who are looking forward to a career in modern business world such as businessmen, banker, economist, CA, auditor, statistical, taxation inspector and other allied jobs. This program delivers required theoretical and industry inputs to students that develops creative thinking to make them experts and professionals in the field.

The cost of the programs and provision for scholarship have been designed with objective of spreading mass education to meet needs of all class of learners. Personal Contact Programme (PCP) is offered by competent faculty as students' support services which ensures timely response to student's queries and, enhances overall quality standards. In all, the programme offered by Directorate of Distance Education, Guru Jambheshwar University of Science and Technology ensure continuous education and meeting the needs of all class of learners.

NATURE OF PROSPECTIVE TARGET GROUP OF LEARNERS

Master of Business Administration (MBA) is a postgraduate Master Degree which specializes in HR, marketing, finance, production and operations management, IT and IB. The program is generally focused on different disciplines like accounting, business management, corporate governance, human resource management, economics, statistics, finance, and marketing or supply chain management. This course is especially meant for college students who are presently at the entry level and want to expand their knowledge and career. Students who want to go for further studies or courses like in research or doctorate level can get a bonus with this course.

• COMPOSITION OF THE TARGET GROUP

- The Graduate students desirous of enhancing their knowledge and qualifications for higher studies.
- The persons who want to pursue their higher studies in business, commerce, and economics.
- The Persons who cannot pursue higher education due to any reason.
- The Persons who are not able to pay higher fees in regular mode (Affordable Fee structure).
- The Home makers who want to enhance their career in business and related areas.
- The University employees with fee concession.
- The students who are eligible for Post Matric Scholarship for SC student of Haryana as per the Government Guidelines.

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APPROPRIATENESS OF PROGRAMME TO BE CONDUCTED IN OPEN AND DISTANCE LEARNING (ODL) MODE TO ACQUIRE SPECIFIC SKILLS AND COMPETENCE

All the courses in the programme are theoretical and problem based. So, no laboratory or experiment is needed to impart the skills and competence required for the programme. The specific skill and competencies required for a MBA post graduate can be imparted to a great extent through SLMs prepared with the approach of self-explanatory self-contained, self-directed, self-motivating and self-evaluating. Distance Education Department is more cost effective and can take place while continuing full-time employment. Distance Education offers outcome based education, having industry centric curriculum. This enables the students to satisfy their needs and aspirations as the system provides enhanced learning opportunities.

• LEARNING OUTCOMES

In its effort towards contribution of knowledge generation and dissemination the program is expected to

- To enhance employability by upgrading their professional and managerial skills
- To nurture creativity and entrepreneurship by gaining business acumen through case studies
- To educate how to communicate and negotiate effectively to achieve organizational and individual goals.
- To instill sensitivity among the students to become thought provoking leaders to face the challenges of a dynamically unstable environment.
- To sensitize them to understand ethical issues and dilemmas that businesses often face.

• SPECIFIC SKILLS ACQUIRED

The students in the process of learning acquire the following skills:

- **Negotiation skills:** Negotiation skills are qualities that allow two or more parties to reach a compromise. These are often soft skills and include abilities such as communication, persuasion, planning, strategizing and cooperating. Understanding these skills is the first step to becoming a stronger negotiator.
- **Accounting Skills:** Accounting qualifications and skills include a wide range of abilities (working with numbers, paying close attention to detail, team working and more) that are required for all levels – junior accountant, senior and accounting manager.
- **Auditing Skills:** It includes skills related with collecting and checking of accounting data, examining financial reports, diagnosing any financial risk, ensuring that company is following all rules and regulations, ability of problem solving, etc.
- **Entrepreneurial skills:** It refers to the set of cognitive, technical, and interpersonal skills required in the practice of entrepreneurship.

- Communication skills: Communication skills are abilities you use when giving and receiving different kinds of information. Communication skills involve listening, speaking, observing and empathizing.

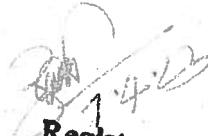
• COMPETENCIES ACQUIRED

The various competencies acquired by students include:

- Personal Competencies - How to manage Self Business.
- Interpersonal competencies - How to work with people in teams and make coordination in their activities.
- Informational competencies- How to use and process information for the benefits of business or organization.
- Action competencies- How to perform in the challenging business environment in a systematic way.

INSTRUCTIONAL DESIGN

1 based courses have been identified and the courses are developed. They have been fine-tuned taking into consideration
stry/social requirements and also to educate rural people professionally. The course, curriculum and syllabi are designed
evaluated by a Departmental Committee. The curriculum and syllabi is then placed in the Board of Studies. The finalized
iculum and syllabi are then placed in the Academic Council for the final approval. The governing body of the distance
ation ensures that the distance education curriculum is at par with the regular programmes. In addition, electives have
1 introduced specifically for distance education programmes to suit the requirements of the dynamic changes taking place
he economy and Industry. However electives can be introduced as and when the need arises after obtaining necessary
rovals from the appropriate academic bodies of the University. Approval of Board of Studies and Academic Council are
ained whenever modifications/additions are made in the existing curriculum and syllabi.


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Scheme and Syllabus of MBA Programme

The Master of Business Administration is a two-year full time programme, which is divided into four semesters. The course structure, viz, the scheme and syllabus of the MBA Programme is given as under:

Scheme of Master of Business Administration (MBA) 2022-23

First Semester				
Course Code	Nomenclature of Paper	External	Internal	Number of Credits
MBA-101	Management Process and Organizational Behavior	70	30	05 Credits
MBA-102	Business Statistics	70	30	05 Credits
MBA-103	Managerial Economics	70	30	05 Credits
MBA-104	Accounting for Managers	70	30	05 Credits
MBA-105	Business Environment	70	30	05 Credits
MBA-106	Business Communication	70	30	05 Credits
MBA-107	Seminar (On Indian Ethos, Computer Applications in Business, Contemporary Issues in Cyber Security and Modern Business)* (Internal)		50	03 Credits
	Total	420	230	33 Credits

*Seminar will be organized by a committee of not less than 3 teachers.

Second Semester				
Course Code	Nomenclature of Paper	External	Internal	Number of Credits
MBA-201	Marketing Management	70	30	05 Credits
MBA-202	Human Resource Management	70	30	05 Credits
MBA-203	Corporate Financial Management	70	30	05 Credits
MBA-204	Production and Operations Management	70	30	05 Credits

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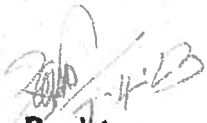
A-205	International Business	70	30	05 Credits
A-206	Management Science	70	30	05 Credits
A-207	Business Research Methods	70	30	05 Credits
	Total	490	210	35 Credits

Third Semester				
Course Code	Nomenclature of Paper	External	Internal	Number of Credits
BA-301	Strategic Management	70	30	05 Credits
BA-302	Entrepreneurship Development	70	30	05 Credits
BA-303	Business Legislation	70	30	05 Credits
BA-304	Summer Internship and Seminar (Internal)		50	03 Credits
	Elective-I*	70	30	05 Credits
	Elective-II*	70	30	05 Credits
	Elective-III*	70	30	05 Credits
	Elective-IV*	70	30	05 Credits
	Open Elective-I**	70	30	05 Credits
	Total	560	290	43 Credits

The students are required to opt 04 (four) Elective Courses offered in Semester III, all the four courses must opted from single area of specialization.

In addition to above 04 (four) elective courses, the students are also required to opt one course from the Open Elective Course.

The List of Open Elective Papers for Semester 3 rd is as follows				
Course Code	Nomenclature of Paper	External	Internal	Number of Credits
OE-301	Counseling skills of Managers	70	30	05 Credits
OE-302	Fundamentals of Econometrics	70	30	05 Credits
OE-303	Personal Finance	70	30	05 Credits
OE-304	Applications of Marketing	70	30	05 Credits
OE-305	Export Import Procedures and Documentations	70	30	05 Credits


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E-306	Corporate Governance and Business Ethics	70	30	05 Credits
E-307	Indian Ethos and Values	70	30	05 Credits
E-308	Computer Applications in Business and Cyber Security	70	30	05 Credits
E-309	Disaster Management	70	30	05 Credits

Fourth Semester				
Course Code	Nomenclature of Paper	External	Internal	Number of Credits
MBA-401	Comprehensive Viva-Voce (External)	100		05 Credits
MBA-402	Research Project (Optional in lieu of one Elective paper) **	70	30	05 Credits
	Elective-I*	70	30	05 Credits
	Elective-II*	70	30	05 Credits
	Elective-III*	70	30	05 Credits
	Or			
MBA-403	In-Company-Project Work *** (300 Marks)			15 Credits
	Total			20 Credits

The students are required to opt 3 (three) Elective Courses offered in Semester IV, all the three papers must be opted from single area of specialization.

Instructions for Research Project: The following instructions will be followed:

- Research project, which is optional, should be from major or core area of specialization of the student and shall be in lieu of one paper of his/her major or core area of specialization.
- Students opting for MBA-402 Research Project in the 4th semester will have to register for the project in Semester III itself by submitting a synopsis along with consent of the supervisor in the Office of DDE by 30th November.
- Research project will be accepted for submission and evaluation when at least one research paper out of the project work has been published or accepted in a research journal, or presented in any national conference/seminar. If a student fails to do so, then he/she has to give the presentation of the research project before a committee constituted by Director, DDE.
- External examiner will evaluate the Research Project and will conduct viva-voce of 70 marks. However, the guide will submit the internal awards out of 30 marks separately on the basis of overall performance of the student in the project.

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The panel of examiners/experts will be provided by Director, DDE. The internal examiner for assisting the external examiner for evaluation and conducting viva voce will be appointed by the Director, DDE.

*** Instructions for In-Company-Project-Work: The following instructions will be followed:

- i) If any student gets placement offer, through on-campus placement drive, from any public or private sector organization during 4th semester and willing to join immediately, he or she may opt for In-Company-Project-Work for which detailed guidelines will be notified separately, from time to time, after taking necessary approval of competent authority of the University.
- ii) However, such In-Company-Project-Work will be jointly supervised by the Academic Guide (to be nominated by the Director, DDE) and Industry Guide (to be appointed by the competent authority of the concerned organization, who has offered appointment letter to the student and the organization requires to join immediately). The Academic Guide will get two hours per week credit per student maximum up to ten credits in his or her teaching workload during the semester.

The List of Elective Papers for Semester III and IV is as follows...


Human Resource Management Area

3rd Semester

Course Code	Course Title	External	Internal	Number of Credits
HRM-301	Management of Industrial Relations	70	30	05 Credits
HRM-302	Human Resource Planning	70	30	05 Credits
HRM-303	Compensation Management	70	30	05 Credits
HRM-304	Managing Interpersonal and Group Processes	70	30	05 Credits
HRM-305	Strategic Human Resource Management	70	30	05 Credits
HRM-306	Leadership Dynamics	70	30	05 Credits
HRM-307	Business Negotiations	70	30	05 Credits
HRM-308	Training and Development	70	30	05 Credits

4th Semester

Course Code	Course Title	External	Internal	Number of Credits
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HRM-401	Labour Laws	70	30	05 Credits
HRM-402	Human Resource Development	70	30	05 Credits
HRM-403	Performance Management	70	30	05 Credits
HRM-404	Organizational Change and Intervention Strategies	70	30	05 Credits
HRM-405	Counseling Skills For Managers	70	30	05 Credits
HRM-406	Global Human Resource Management	70	30	05 Credits
HRM-407	Labour Welfare and Social Security	70	30	05 Credits

Finance Area

3rd Semester

Course Code	Course Title	External	Internal	Number of Credits
FM-301	Risk Management and Insurance	70	30	05 Credits
FM-302	Security Analysis	70	30	05 Credits
FM-303	Project Management	70	30	05 Credits
FM-304	Management of Banks and Financial Institutions	70	30	05 Credits
FM-305	Foreign Exchange Management	70	30	05 Credits
FM-306	Public Finance	70	30	05 Credits
FM-307	Business Taxation	70	30	05 Credits
FM-308	Financial Econometrics	70	30	05 Credits

4th Semester

Course Code	Course Title	External	Internal	Number of Credits
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FM-401	Portfolio Management	70	30	05 Credits
FM-402	Financial Markets and Services	70	30	05 Credits
FM-403	Funds Management	70	30	05 Credits
FM-404	International Financial Management	70	30	05 Credits
FM-405	Financial Restructuring and Valuation	70	30	05 Credits
FM-406	Financial and Commodity Derivatives	70	30	05 Credits
FM-407	Financial Decision Analysis	70	30	05 Credits
FM-408	Behavioral Finance	70	30	05 Credits

Marketing Area

3rd Semester

Course Code	Course Title	External	Internal	Number of Credits
MM-301	Consumer Behavior	70	30	05 Credits
MM-302	Marketing Research	70	30	05 Credits
MM-303	Integrated Marketing and Communication Strategy	70	30	05 Credits
MM-304	Sales & Distribution Management	70	30	05 Credits
MM-305	Logistics Management	70	30	05 Credits
MM-306	Marketing of Services	70	30	05 Credits
MM-307	Product and Brand Management	70	30	05 Credits

4th Semester

Course Code	Course Title	External	Internal	Number of Credits
MM-401	Global Marketing	70	30	05 Credits
MM-402	Industrial Marketing	70	30	05 Credits
MM-403	Rural Marketing	70	30	05 Credits
MM-404	Customer Relationship	70	30	05 Credits

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	Management			
MM-405	Retail Management	70	30	05 Credits
MM-406	Social Marketing	70	30	05 Credits
MM-407	Digital and Social Media Marketing	70	30	05 Credits

International Business Area

3rd Semester

Course Code	Course Title	External	Internal	Number of Credits
IB-301	International Financial Markets	70	30	05 Credits
IB-302	Export-Import Procedures and Documentation	70	30	05 Credits
IB-303	India's Foreign Trade & Policy	70	30	05 Credits
IB-304	Global Marketing	70	30	05 Credits
IB-305	International Logistics	70	30	05 Credits
IB-306	International Accounting	70	30	05 Credits
IB-307	Risk Management in International Business	70	30	05 Credits

4th Semester

Course Code	Course Title	External	Internal	Number of Credits
IB-401	Foreign Exchange Management	70	30	05 Credits
IB-402	Regional Economic Blocks	70	30	05 Credits
IB-403	Management of International Finance	70	30	05 Credits
IB-404	Global Strategic Management	70	30	05 Credits
IB-405	Cross Cultural and Global Management	70	30	05 Credits
IB-406	International Trade Laws	70	30	05 Credits

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IB-407	Integrated Marketing Communication strategy	70	30	05 Credits
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Production and Operations Management Area

3rd Semester

Course Code	Course Title	External	Internal	Number of Credits
POM-301	Purchase and Materials Management	70	30	05 Credits
POM-302	Total Quality Management	70	30	05 Credits
POM-303	Supply Chain Management	70	30	05 Credits
POM-304	Service Operations Management	70	30	05 Credits
POM-305	Technology Management	70	30	05 Credits

4th Semester

Course Code	Course Title	External	Internal	Number of Credits
POM-401	Operations Research	70	30	05 Credits
POM-402	Goal Programming in Management	70	30	05 Credits
POM-403	Transportation Management	70	30	05 Credits
POM-404	World Class Manufacturing	70	30	05 Credits
POM-405	Warehouse Management and Inventory Control	70	30	05 Credits
POM-406	Project Management	70	30	05 Credits

Information Technology Management Area

3rd Semester

Course Code	Course Title	External	Internal	Number of Credits
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ITM-301	E-Commerce Applications	70	30	05 Credits
ITM-302	Internet and Web Designing	70	30	05 Credits
ITM-303	Relational Data Base Management Systems	70	30	05 Credits
ITM-304	E-Business Information Systems Management	70	30	05 Credits
ITM-305	Enterprise Resource Planning	70	30	05 Credits

4th Semester

Course Code	Course Title	External	Internal	Number of Credits
ITM-401	Data Ware Housing and Data Mining	70	30	05 Credits
ITM-402	E-CRM	70	30	05 Credits
ITM-403	Systems Analysis and Design	70	30	05 Credits
ITM-404	Principles of Programming Language	70	30	05 Credits
ITM-405	Multimedia and Web Development	70	30	05 Credits


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The Detailed Syllabus of MBA Programme as follows...

FIRST SEMESTER

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MBA-101 MANAGEMENT PROCESS AND ORGANISATIONAL BEHAVIOR

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this paper is to familiarize the students with basic management concepts and behavioral processes in the organization.*

Course Outcomes:

- CO1:** Students will be able to recall the concepts of management process and organizational behavior.
- CO2:** Students will be able to understand individual and group behavior, and understand the implications of organizational behavior on the process of management.
- CO3:** Students will be able to employ different motivational theories and evaluate motivational strategies used in a variety of organizational settings.
- CO4:** Students will be able to appraise the basic design elements of organizational structure and evaluate their impact on employees.
- CO5:** Students will be able to evaluate how organizational change and culture affect working relationships within organizations.
- CO6:** Students will be able to design strategies to manage individual, group and organizational behaviour.

Course Contents:

UNIT-I

Introduction to management: Meaning, nature and scope of management; Evolution of management thoughts: School of management thoughts, Approaches to management; Managerial skills; Managerial functions; Social Responsibility of managers and business; Challenges before modern managers

UNIT-II

Managerial functions: Planning, Decision Making, Management by Objectives; Organizing, Organizational Design, Organizational Structure, Authority and Responsibility, Power, Decentralization; Staffing; Directing, Leading, Motivating, Communicating; Controlling; Co-ordinating.

UNIT-III


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Organizational Behavior: concepts, determinants, challenges and opportunities of OB; contributing disciplines to the OB; Organizational culture and climate, Impact of organizational structure on OB; Understanding and managing individual behavior: Personality; Perception; Values; Attitudes; Learning.

UNIT-IV

Understanding and managing group processes: Interpersonal and Group Dynamics; Understanding Self: Transactional Analysis; Applications of Emotional Intelligence in organizations; Conflict Management; Stress Management.

Suggested Readings:

1. Chandan, J.S., *Organizational Behaviour*, Vikas Publications
2. Koontz, H & Wehrich, H., *Management*, Tata McGraw Hill.
3. Luthans, F., *Organizational Behaviour*, Tata McGraw Hill.
4. Robbins, S.P., *Management*, Prentice Hall Ins.
5. Robbins, S., Judge, T. & Sanghi, S., *Organizational Behaviour*, Prentice Hall of India.
6. Stoner, J., *Management*, Prentice Hall of India.
7. Davis, K., *Organisational Behaviour*, Tata McGraw Hill.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

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MBA-102**BUSINESS STATISTICS****Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to make students learn about the applications of statistical tools and techniques for decision making.*

Course Outcomes:

- CO1:** Students will be able to recall different terms used in statistics.
- CO2:** Students will be able to understand the different methods used in statistics.
- CO3:** Students will be able to apply the knowledge of statistics in their future studies as well as in corporate sector also.
- CO4:** Students will be able to analyze the importance of statistics in business.
- CO5:** Students will be able to evaluate the proficiency of statistical methods in an industry or business.
- CO6:** Students will be able to assemble the different methods of statistics for the well being of business

Course Contents:**UNIT-I**

Univariate analysis: central tendency, dispersion (theoretical concept); Probability: Introduction, addition theorem, multiplication theorem, conditional probability, Bayes Theorem. Theoretical probability distributions: Binomial, Poisson, Normal Distribution; their characteristics and applications.

UNIT-II

Sampling: probability and non-probability sampling methods; Sampling distribution and its characteristics; Hypothesis testing: hypothesis formulation, and testing; Statistical Tests: z-test, t-test, F-test, Analysis of variance, Chi-square test, Wilcoxon Signed-Rank test, Kruskal-Wallis test.

UNIT-III

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Correlation analysis: simple, partial and multiple correlations; Regression analysis: simple linear regression model, ordinary least square method. Time series analysis: components of a time series and their measurements and uses.

UNIT-IV


Index numbers: meaning and types, methods for measuring indices, adequacy of indices; Statistical quality control: causes of variation in quality, Control Charts, Acceptance sampling.

Suggested Readings:

1. Gupta, S.P., *Statistical Methods*, Sultan Chand & Sons
2. Anderson, Sweeney and Williams, *Statistics for Business and Economics*, Cengage Learning.
3. Ken Black, *Business Statistics*, Wiley.
4. Levin, Richard I and David S Rubin, *Statistics for Management*, Prentice Hall, Delhi.
5. Aczel and Sounderpandian, *Complete Business Statistics*, Tata McGraw Hill, New Delhi.
6. Hooda, R.P., *Statistics for Business and Economics* Macmillan, New Delhi.
7. Heinz, Kohler, *Statistics for Business & Economics*, Harper Collins, New York.
8. Lawrence B. Morse, *Statistics for Business & Economics*, Harper Collins, NY

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MBA-103

MANAGERIAL ECONOMICS

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to acquaint the students with concepts and techniques used in the field of economics and to enable them to apply this knowledge in business decision-making. Emphasis is given to changes in the nature of business firms in the context of globalization.*

Course Outcomes:

- CO1: Students will be able to define the terms associated with managerial economics.
- CO2: Students will be able to explain different theories of managerial economics.
- CO3: Students will be able to apply the models of managerial economics in business decisions.
- CO4: Students will be able to examine the demand and supply forces and their effect on pricing and output related decisions.
- CO5: Students will be able to evaluate the effectiveness of various models and theories of managerial economics in demand, supply, production and costs related decision making procedures.
- CO6: Students will be able to create the competitive strategies to ensure optimum utilisation of resources.

Course Contents:

UNIT-I

Theory of demand and consumer equilibrium-utility and indifference curve approach; Demand function; Elasticity of demand and its significance in managerial decision-making; Demand forecasting and its techniques.

UNIT-II

Theory of Cost: Types of cost: production cost, selling cost, R&D Cost, short run and long run cost curves, relation between cost and revenue, break-even point; Economies and diseconomies of scale and scope; Production function: Short term and long run production function, law of variable proportion and return to scale, Iso-quant curves.

UNIT-III


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Market Structure and Competition: Price and output determination under perfect competition, monopoly, monopolistic competition and oligopoly.

UNIT-IV


Modern theories of firm: Baumol's theory of sales maximization, Managerial Theory, Behavioral Theory; National Income: Concept and Measurement.

Suggested Readings:

1. Ferguson, P. R. Rothschild, R. Ferguson G.J., Business Economics, Palgrave Macmillan.
2. Dwivedi, D. N., Managerial Economics, Vikas Publication.
3. Salvatore, Managerial Economics in Global Economy, Thomson Learning.
4. Thomas, C.R. & Maurice S.C., Managerial Economics, Tata McGraw Hill.
5. Koutsoyiannis, A., Modern Economics, Macmillan

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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1095
MBA-104

ACCOUNTING FOR MANAGERS

Time Allowed: 3 Hours

M.M:70

Course Objective: *The basic purpose of this course is to develop an insight of postulates, principles and techniques of accounting and application of financial and accounting information for planning, decision-making and control.*

Course Outcomes:

- CO1: Students will be able to describe various accounting concepts, principles, techniques associated with decision making.
- CO2: Students will be able to recognize the usefulness of costing to manager and its applications in the business.
- CO3: Students will be able to apply the principles, postulates and techniques of accounting for planning and decision making.
- CO4: Students will be able to differentiate between various types of accounting practices being followed within the organisation.
- CO5: Students will be able to appraise the performance of organisations with the help of financial statements presented at the end of the year.
- CO6: Students will be able to formulate advanced policy structure comprising of all accounting information required for controlling deviations in the performance.

Course Contents:


UNIT-I

Financial Accounting- Meaning, scope and importance; Accounting concepts and conventions; Accounting process: Journal, Ledger and Trial Balance, Depreciation accounting and policy, Preparation of Final Accounts of Joint-stock Companies, Understanding and Analyzing Published Financial Statements of Companies.

UNIT-II

Cost Accounting: Nature and scope of costing; Cost concepts and Classifications; Usefulness of Costing to Managers; Preparation of Cost sheet. Budgeting: Types of budgets and their preparation

UNIT-III


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Management Accounting: Nature, scope and tools of Management Accounting; Management Accounting vs. Financial Accounting; Financial analysis: Ratio analysis, Cash Flow Statement.

UNIT-IV

Marginal costing: CVP analysis, break-even analysis, Decision involving alternative choices: fixation of selling price, exploring new markets, make or buy decision and product mix decision. An overview of Standard Costing

Suggested Readings:

1. Anthony, R.N. & Reece J.S., *Accounting Principles*, Homewood, Illinois, Rd Irwin.
2. Bhattacharya, S.K. & Dearden, J., *Accounting for Management: Text and Cases*, Vikas Publishing House
3. Gupta, R.L. & Ramaswamy, *Advanced Accountancy*, Volume I&II, Sultan Chand & Sons.
4. Hingorani, N.L. & Ramanathan, A.R., *Accounting*, Sultan Chand & Sons.
5. Jawahar Lal, *Cost Accounting*, Vikas Publishing House.
6. Maheshwari, S.N., *Advanced Accounting*, Vikas Publishing House.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

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1097
MBA-105

BUSINESS ENVIRONMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to analyze the micro and macro environment of business in coherent and critical manner.*

Course Outcomes:

- CO1: Students will be able to define and trace all the indicators of micro and macro environment affecting business organizations
- CO2: Students will be able to identify and illustrate the impact, challenges and opportunities of all environmental indicators on business organizations
- CO3: Students will be able to apply and demonstrate the gathered knowledge about how the various laws and other national and international policies influence the organizations in order to take proactive measures so that organizational effectiveness is maintained.
- CO4: Students will be able to distinguish and examine the necessary techniques and skills that help them in handling the organization's global and national issues efficiently.
- CO5: Students will be able to evaluate and value the importance of environment within which a business organization has to sustain itself successfully
- CO6: Students will be able to design and develop their approaches and systems in maintaining coherence both at micro and macro level

Course Contents:

UNIT-I

Indicators of Internal and External Business environment; Environmental scanning and risk assessment; Concepts of Economic systems; New Industrial Policy-1991 and Recent Financial and Economic Reforms, Recent Monetary and Fiscal Policy and their impact on Business Environment.

UNIT-II

Impact of Political, Economic, Social and Technological Environment on the Emerging Sectors of Indian Economy: Public Sector, Private Sectors, Services Sector and SME Sector; Privatization in India; Public Private Partnership; Challenges and Opportunities in the Rural sector.

UNIT-III

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Globalization Business Environment; Opportunities and challenges for MNCs in India; Foreign investment in India; Indian Foreign Trade and its Impact on Balance of Payment, Exchange rate Movements and India's Competitiveness in the world economy; World Trade Trends and Economic Integration. Contemporary Issues: Climate change, Food security, Geopolitics Sustainable Development and De-Globalization.

UNIT-IV

Legislations for Social Responsibilities- Consumer Protection Act, 1986 and its Amendments, Competition Act, 2002 and its Amendments and Environmental Protection Act, 1986; Foreign Exchange Management Act, 1999 (FEMA) and their influences on the Business Environment.

Suggested Readings:

1. Faisal Ahmed and M. Absar Alam. Business Environment: Indian and Global Perspective, PHI, New Delhi. 2014
2. Cherunilam, Francis, *Business Environment*, Himalya Publishing House.
3. Misra, S.K. & Puri, V.K., *Indian Economy*, Himalya Publishing House.
4. Aswath Thapa, K., *Business Environment*, Excel Books.
5. Bedi S.K., *Business Environment*, Excel Books.
6. Khujan Singh, *Business Environment – Theory and Practice*, IAHRW Publications
7. Paul Jastin, *Business Environment*, Tata Mc Graw Hill.
8. Economic Survey, Govt. of India.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

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MBA-106

BUSINESS COMMUNICATION**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The course is aimed at equipping the students with the necessary techniques and skills that help them in communicating effectively for handling inter as well as intra organizational issues.*

Course Outcomes:

- CO1:** Students will be able to define and outline all four business communication skills i.e. reading, writing, speaking and listening
- CO2:** Students will be able to identify and illustrate communication abilities to face corporate challenges.
- CO3:** Students will be able to apply and demonstrate the gathered knowledge about the business communication regarding both inter and intra organizational situations
- CO4:** Students will be able to distinguish and examine the necessary techniques and skills that help them in communicating effectively for handling organizational issues.
- CO5:** Students will be able to evaluate and judge which business correspondence is required when and how to use it in order to handle corporate tasks.
- CO6:** Students will be able to design and develop their methods and ways in transmitting information within and outside the organizations in the most effective manner

Course Contents:**UNIT-I**

Communication: Importance for business organization; Process and associated hurdles; Principles for effective communication; Dimensions of Communication; Network of communication; Grapevine

UNIT-II

Verbal Communication: Oral and Written; Non-Verbal Communication: Kinesics; Paralanguage; Proxemics; Sign Language. Cross Cultural Communication.

UNIT- III

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H10A-123001

Essentials of effective business correspondence; Business Letter- Types; Proposal writing Report writing- Essentials, Types, and Steps, Introduction to Plagiarism; Notices, Circulars, Office Orders, Memos, Agenda and Minutes, Representations, Employee Newsletters.

UNIT-IV


Presentation Skills; Listening Skills; Small Talks; Public Speaking; Resume' Writing; Meetings; Interview; Group Discussion; Electronic Mail and Telephone Etiquettes.

Suggested Readings:

1. Raymond V. Lesikar & Marie E. Flatley, *Basic Business Communication*, TMH
2. Murphy H. A. and Hildebrandt H. W., *Effective Business Communications*, TMH
3. Sinha, K.K. *Business Communication*, Galgotia Publishing Co
4. Courtland L. Bovee, John V. Thill & Barbara E. Schatzman, *Business Communication Today*, Pearson Education.
5. Krishna Mohan & Meera Banerji, *Developing Communication Skills*, Macmillan India Ltd.
6. Taylor, S., *Communication for Business*, Pearson Education.
7. Any leading National English Daily

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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101
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MBA-107

SEMINAR

**(On Indian Ethos, Computer Applications in Business,
Contemporary Issues in Cyber Security and Modern Business)
(Internal)**

Time Allowed: 1 Hour

M.M.: 50


Course Objective: *The objective of this course is to acquaint the students with existing issues pertaining to Indian Ethos and business. Also, inculcating in them the ability of expressing themselves to an audience with poise and self- belief.*

Course Outcomes:

- CO1:** Students will be able to define the concept and scope of the seminar topic of their interest relating to Indian ethos or contemporary issues in business.
- CO2:** Students will be able to review an existing issue related to business that can help them to get ahead.
- CO3:** Students will be able to illustrate the possible managerial relevance and implications of the specific issue they have approached.
- CO4:** Students will be able to appraise the relevance of arguments prepared for the topic under consideration.
- CO5:** Students will be able to defend difference in opinion towards a topic.
- CO6:** Students will be able to develop their presentation skills.

Important Instructions for the Programme Coordinator and the Examiner:

- The list of contemporary topics will be announced in the class and at least one topic will be allotted to each student by the Programme Coordinator.
- The Evaluation Committee duly constituted by the Director/Principal will invite a seminar presentation from each student and the evaluation will be done on the basis of communication skills, contents, delivery, body-language and question-answer handling skills of the student on a proforma duly notified to the students in advance.


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SECOND SEMESTER

1103

MBA-201

MARKETING MANAGEMENT

Time Allowed: 3 Hours

M.M: 70

Course Objective: The purpose of this course is to develop an understanding of the underlying concepts, strategies and issues involved in the marketing of products and services.

Course Outcomes:

- CO1: Students will be able to recall and describe the fundamental concepts related to marketing.
- CO2: Students will be able to describe the different approaches of marketing and environment in which marketing systems operate.
- CO3: Students will be able to demonstrate an understanding of the 4Ps used by the marketers.
- CO4: Students will be able to examine the upcoming trends of marketing in the ever dynamic business world.
- CO5: Students will be able to evaluate the marketing strategies and programmes of different products in real world.
- CO6: Students will be able to design a marketing plan for real world market offering (product/service).

Course Contents:

UNIT- 1

Nature, scope and concept of marketing; Corporate orientations towards the marketplace; Marketing Mix; Understanding 4 A's of Marketing; Marketing Environment and Environment Scanning; Marketing Information System and Marketing Research; Understanding Consumer and Industrial Markets; Market Segmentation, Targeting and Positioning

UNIT- II

Product decisions: Product concept and classification, product mix, product life cycle, new product development; Product branding, packaging and labeling decisions; Pricing decisions: Factors affecting pricing decisions, setting the price, Pricing strategies and methods.

UNIT- III

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1104

Distribution Channels and Logistics Management: nature, types and role of intermediaries; Channel design decisions, Channel behavior and organization, Channel management decisions, Logistics management decisions. Marketing communication and promotion decisions: Factors influencing promotion mix; Advertising decisions; Personal Selling; Sales force management; Sales promotions; Publicity and Public relations.

UNIT- IV


Holistic marketing: Trends in marketing practices, Internal marketing, Socially responsible marketing, Marketing implementation and control; New issues in marketing-Globalization, Consumerism, Green Marketing, Direct Marketing, Network Marketing, Event Marketing, Ethics in Marketing.

Suggested Readings:

1. Kotler, Philip and Keller, Kevin, *Marketing Management*, Prentice Hall of India
2. Kotler, Philip and Armstrong, G., *Principles of Marketing*, Prentice Hall of India
3. Czinkota & Kotabe, *Marketing Management*, Thomson Learning
4. Ramaswamy, V.S. & Namakumari, S., *Marketing Management: Planning, Control*, Macmillan
5. Kotler, Lane, Keller., *Marketing Management*, Pearson
6. Rajan Saxena, *Marketing Management*, McGraw Hill
7. R. Srinivas, *Case Studies in Marketing- Indian Context*, PHI Learning
8. Stanton, *Fundamentals of Marketing*, McGraw Hill
9. Sontakki, C.N. et al., *Marketing Management*, Kalyani Publishers
10. Kumar, A and Meenakshi, N, *Marketing Management*, Vikas Publishing House Pvt. Ltd.
11. C.K. Prahalad, *The Fortune at the Bottom of Pyramid*, FT Press
12. Matt Haig, *100 Brand Failures*, Kogan Page
13. W. Chan Kim & Renee Mauborgne, *Blue Ocean Strategies*, Harvard Business Review Press

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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MBA-202

HUMAN RESOURCE MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to sensitize students to the various facets of managing people and to create an understanding of the various policies and practices of human resource management.*

Course Outcomes:

- CO1:** Students will be able to recall the terms associated with Human Resource Management.
- CO2:** Students will be able to discuss various HR practices used in the business world.
- CO3:** Students will be able to apply various HR practices.
- CO4:** Students will be able to compare and contrast HR practices across companies.
- CO5:** Students will be able to evaluate the effectiveness of HR practices adopted in the organizations.
- CO6:** Students will be able to create and design the HR strategies related to coping in dynamic business environment.

Course Contents:**UNIT-I**

Introduction to HRM: Concepts and Perspectives of Human Resource Management; Human Resources Management in a Changing Environment; Managerial and Operative Functions of HRM.

UNIT-II

Recruitment, Placement and Retention Strategies: Human Resource Planning; Job Analysis; Methods of Manpower Search; Attracting, Selecting and Retaining Human Resources; Induction and Socialization.

UNIT-III

Training and Development: Manpower Training and Development; Performance Appraisal and Potential Evaluation; Career and Succession Planning; Talent Management.

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 Sr. ...
 HUMAN RESOURCE MANAGEMENT

UNIT-IV

Employee Relations and Compensation Administration: Job Evaluation and Compensation Management; Incentives and Employee Benefits; Employee Welfare; Industrial Relation; Employee Separation Practices, HR Accounting and audit.

Suggested Readings:

1. Aswathappa, K., *Human Resource and Personnel Management*, Tata McGraw Hill.
2. Dessler, G., *Human Resource Management*, Pearson Education.
3. Venkatesh, D.N. & Jyothi P., *Human Resource Management*, Oxford University Press.
4. Bohlander, G. & Snell, S., *Human Resource Management*, Cengage Learning.
5. Patnayak, B., *Human Resource Management*, PHI Learning.
6. Rao, V.S.P., *Human Resource Management*, Excel Books.
7. Cascio, W.Y., *Managing Human Resources*, Irwin-McGraw Hill.
8. Noe, Hollenbeck, Gerhart & Wright, *Human Resource Management*, McGraw-Hill Higher Education

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

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MBA-203

CORPORATE FM

Time Allowed: 3 Hours

M.M:70

Course Objective: *The purpose of this course is to acquaint the students with the broad framework of financial decision-making in business.*

Course Outcomes:

CO1: Students will be able to outline the basic framework of financial management.

CO2: Students will be able to explain the role of financial management for financial decision making in business.

CO3: Students will be able to apply various theories of capital structure and dividend policy.

CO4: Students will be able to examine risk in capital budgeting decisions.

CO5: Students will be able to select various sources of finance with evaluation of their cost.

CO6: Students will be able to create working capital policy for organization.

Course Contents:

UNIT-I

Financial Management: meaning, objectives and scope; types of financial decisions, risk-return framework for financial decision-making, time value of money.

Capital Budgeting Decisions: nature, importance and types of investment decision; techniques of evaluating capital budgeting decisions, risk analysis in capital budgeting.

UNIT-II

Capital Structure Decisions: optimum capital structure; theories of capital structure; factors determining capital structure. Sources of long term and short term finance.

Cost of Capital: concept and importance; computations of cost of various sources of finance; weighted average cost of capital.

UNIT-III

Working Capital Management: Concept and types of working capital; operating cycle, determinants of working capital, estimation of working capital requirement; working capital policy; Management of cash, accounts receivables and inventories; financing working capital.

UNIT-IV


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Dividend Policy: Dividend and its forms, theories of dividend policy and their impact on the value of a firm; types of dividend policy. An overview of Corporate Restructuring

Suggested Readings:

1. Van Horne, James C., *Financial Management and Policy*, Prentice Hall of India.
2. Pandey I. M., *Financial Management*, Vikas Publishing.
3. Damodaran, A, *Corporate Finance: Theory and Practice*, John Wiley & Sons.
4. Hampton, John. *Financial Decision Making*, Englewood Cliffs, Prentice Hall Inc.
5. Khan, M.Y. & Jain, P.K., *Financial Management*, McGraw Hill.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

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1104
MBA-204

PRODUCTION AND OPERATIONS MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The Course is designed to acquaint the students with decision making in planning, scheduling and control of production operations in both manufacturing and service organizations.*

Course Outcomes:

- CO1: Students will be able to recall different terms used in production and operation management.
- CO2: Students will be able to summarise basic concepts in production and quality control.
- CO3: Students will be able to apply different techniques/methods for effective management of production.
- CO4: Students will be able to analyze the utility of different techniques for operation management.
- CO5: Students will be able to evaluate the performance of different methods used for management of materials, its production process and operation.
- CO6: Students will be able to create and design new techniques for quality control in the process of production and operation management.

Course Contents:

UNIT-I

Nature and Scope of Production and Operations Management; Types of Manufacturing Systems
Facility Location; Plant Layout: Layout Planning and Analysis.

UNIT-II

Production Planning: Capacity Planning, Aggregate Planning, Master Production Scheduling,
Material Requirement Planning; Maintenance Management.

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1110

UNIT-III

Material Management: An overview of Material Management, Inventory Control, Purchase Management, Just in Time; Material Handling; Scheduling: Gantt Charts, Sequencing.

UNIT-IV


Quality Control: Statistical Quality Control, Acceptance Sampling, Total Quality Management, ISO-9000; Work Study: Method Study, Work Measurement.

Suggested Readings:

1. Heizer, J. & Render, B., Operations Management, Pearson.
2. Gaither, N. & Frazier, G., Operations Management, Thomson.
3. Adams, Everett E. (Jr.) and Ebert, Ronald J., Production and Operations Management: Concepts, Models and Behavior, Prentice Hall of India.
4. Krajewski Lee J. & Ritzman Larry P., Operations Management: Processes and Value Chain, Pearson.
5. Buffa, E. S. & Sareen, Modern Production Management, John Wiley.
6. Chary, S. N., Production and Operations Management, Tata McGraw Hill.
7. Richard, B. Chase, F. Robert Jacobs, Nicolas J. Aquilano & Nitin K Agarwal, Operations Management for Competitive Advantage, Tata McGraw Hill.
8. Nair, N.G. Production and Operations Management, Tata McGraw Hill.

Important Instructions for the Course Coordinator and the Examiner:

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MBA-205

INTERNATIONAL BUSINESS

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to highlight the international environment, including relationships between business, government, economic groupings and the consumer. The course will also highlight the problems encountered and issues raised in managing overseas business.*

Course Outcomes:

- CO1:** Students will be able to describe the different concepts and terms used in the literature of International Business.
- CO2:** Students will be able to identify the importance of tariffs, theories, modes, foreign exchange market, international organization and strategies.
- CO3:** Students will be able to illustrate and interpret the macroeconomic changes that affect the international business.
- CO4:** Students will be able to examine the recent practices followed across functional areas of international business.
- CO5:** Students will be able to evaluate the strategic alliance, merger and acquisition, joint venture and regulation of international business.
- CO6:** Students will be able to design international business strategies.

Course Contents:

UNIT – I

Overview of International Business: Evolution and development of international business; International Business Environment: Factors leading to growth in international business, Modes of international business.

UNIT –II

An overview of International trade theories, Commercial Policy Instruments: Tariff and Non-Tariff Measures and their impact; Balance of Payment Account, Foreign Direct Investment, International Financial Environment; Foreign Exchange Rates and Markets, Management of exchange rate.

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UNIT- III

Organizational Structure for International Business, International Marketing Management, International Financial Management, International Production Management, International HRM, International Business Negotiations, Recent developments and issues in International Business.

UNIT- IV


Multinational Corporations: Conceptual framework of MNCs; MNCs and host and home country relations; Technology transfers, Strategic Alliances, Mergers and Acquisitions, Foreign Trade Promotion, Indian Joint Ventures Abroad, Multilateral regulation of trade and investment: IMF, World Bank, WTO, UNCTAD, Regional Economic Cooperation.

Suggested Readings:

1. Korth, Christopher M., *International Business Environment and Management*, Prentice Hall.
2. Ramu, S. Shiva, *International Business: Governance Structure*, Wheeler Publishing.
3. Bhalla, V.K., *International Business Environment and Management*, Anmol Publications.
4. Mithani, D.M., *International Economics*, Himalaya Publishing House.
5. Charles W.L. Hill, *International Business*, Tata MC Graw-Hill.
6. Czinkota, Ronkainen & Moffet, *International Business*, Thomson, South-Western.
7. Daniels, Radebaugh and Sullivan, *International Business, Environments and Operations*, Pearson Education.
8. V. Sharan, *International Business, concept, environment and strategy*, Pearson Education

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- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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Guru Jambheshwar University,
Science & Technology
BLOCK-125001 (Haryana)

1113
MBA-206

MANAGEMENT SCIENCE

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to develop an understanding of basic management science techniques and their role in managerial decision making.*

Course Outcomes:

- CO1: Students will be able to define the basic concepts in the field of Management Science.
- CO2: Students will be able to recognize the contribution of Management Science in quality decision making.
- CO3: Students will be able to apply various methods and techniques to optimize the utilization of the resources.
- CO4: Students will be able to appraise the utility of different methods in finding optimal solutions of the managerial problems.
- CO5: Students will be able to evaluate the performance and suitability of different methods used for efficient utilization of the resources.
- CO6: Students will be able to formulate the problems and interpret the results produced by the applied models.

Course Contents:

UNIT-I

Management Science - Basic concepts and its role in decision-making. Linear programming: meaning, scope & assumptions, Formulation of linear programming problem & solution by graphical & simplex methods and some special cases.

UNIT-II

Duality and Sensitivity analysis: change in objective function coefficient and availability of resources with simplex method. Transportation - Some special cases like maximization, unbalanced problems, degeneracy in transportation models, Assignment models (HAM).


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UNIT-III

Queuing theory (single channel Poisson arrivals with exponential service time, infinite population model); Inventory management techniques (Deterministic Model), special techniques of inventory management; PERT/CPM - Network analysis, determining the critical path, calculation of float.

UNIT-IV


Game theory: Pure and mixed games, dominance and graphical method. Decision theory: one stage and multi stage decision trees; Introduction to Integer programming, Goal programming, Dynamic programming.

Suggested Readings:

1. Vohra, N.D. *Quantitative Techniques in Management*, Tata McGraw Hill.
2. Budnik, Frank S. Dennis Mcleavy, Richard *Principles of Operations Research*, Richard Irwin, Illinois - All India Traveller Bookseller
3. Sharma, J K. *Operations Research: Theory and Applications*, New Delhi, Macmillian India Ltd.
4. Taha, H A., *Operations Research - An Introduction*, New York, Mc-Millan.
5. Narang, A S. *Linear Programming and Decision Making*, Sultan Chand.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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11/5
MBA-207

BUSINESS RESEACRH METHODS

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course is designed to introduce the students to the fundamentals of research methods and to equip them to follow scientific methods in solving business problems.*

Course Outcomes:

- CO1: Students will be able to relate with the basic understanding of research methodology in the changing business scenario.
- CO2: Students will be able to identify and classify the application of analytical techniques to face the tasks aimed at fulfilling the objective of business decision making.
- CO3: Students will be able to apply and demonstrate an understanding of ethical dimensions of conducting research.
- CO4: Students will be able to distinguish and examine the necessary experimental techniques that help in scientific decision making.
- CO5: Students will be able to judge and support best alternatively relating to the practices learnt through research methods.
- CO6: Students will be able to assemble and formulate advanced ways of taking decisions in a logical manner.

Course Contents:

UNIT –I

Introduction to Research: Defining Business Research, Types of Research; Scientific Method, Theory Building, Type of Variables; Research Process: Problem Definition, Exploratory Research.

UNIT –II

Research Designs: Concept, Need and Types of Research Designs; Survey Research: Nature of Surveys, Errors in Survey Research, Personal Interview, Telephone Interview, Self-Administered Questionnaire; Observation Methods; Introduction to Experimental Research.

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Guru Janakiah

Sci. & Tech.

HISAK-123001

UNIT –III

Sampling Design: Census v/s Sampling, Sampling Methods, Determination of Sample Size; Measurement and Scaling Concepts, Attitude Measurement, Questionnaire Design, Basic Concepts of Reliability and Validity

UNIT –IV


Data Analysis: Descriptive Statistics, Univariate Statistics; Bivariate Analysis: Test of Difference, Measures of Association; Introduction to Multivariate Analysis; Report Writing.

Suggested Readings:

1. Zikmund, W. G. *Business Research Methods*. Thomson.
2. Copper, D. R., Schindler P. S. & Sharma, J. K. *Business Research Methods*, McGraw Hill Education.
3. Burns, R. B. & Burns, R. A. *Business Research Methods and Statistics using SPSS*, SAGE Publications Ltd.
4. Bajpai, N, *Business Research Methods*, Pearson.
5. Chawla, D. & Sondhi N., *Research Methodology: Concepts and Cases*, Vikas Publishing House.
6. Panneerselvam, R, *Research Methodology*, Prentice Hall India.
7. Kothari, C.R. *Research Methodology & Technique*, New Age International Publishers.

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- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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FINAL YEAR COMPULSORY PAPERS

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1118
MBA-301

STRATEGIC MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The course aims at imparting knowledge of formulation, implementation and evaluation of Business Strategies.*

Course Outcomes:

- CO1: Students will be able to outline the type of decisions taken at different levels of organisation.
- CO2: Students will be able to explain the process of strategic decision making in an organisation.
- CO3: Students will be able to apply various tools to assess business environment.
- CO4: Students will be able to differentiate among various stages of strategic management starting from strategy formulation to its evaluation.
- CO5: Students will be able to evaluate the strategy which best fits in achieving the organisational goals.
- CO6: Students will be able to develop a framework of how an organisation actually works by developing policies and strategies.

Course Contents:

UNIT-I

An introduction to business policy - Nature, Objective and importance of business policy; An overview of strategic management; Strategic decision making; Process of strategic decision making.

UNIT-II

Strategy formulation: Company's vision, mission and objectives; Environmental and organizational appraisal, Strategic alternatives and choice; Types of strategies; Business ethics and corporate strategy, Concept of value chain, core competency, resource base theory and competitive advantage.

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UNIT-III

Strategy implementation: Designing organizational structure and activating strategies; Matching structure and corporate strategy, Structural, Behavioral and Functional implementation.

UNIT-IV

Strategy Evaluation: Strategic evaluation and Control, Strategic and Operational Control; Techniques of evaluation and control.

Suggested Readings:

1. Jauch & Glueck, *Business Policy and Strategic Management*, McGraw-Hill Publications.
2. Thompson A.A. and Stickland A.J, *Strategic Management- Concept and cases*, Pearson
3. Michael Porter, *Competitive Advantage of Nations*, Free Press.
4. Azhar Kazmi, *Business Policy and Strategic Management*, Thomson Learning
5. Kenneth, A. Andrews, *Concepts of corporate Strategy*, Irwin/McGraw-Hill
6. Melvin J. Stanford, *Management Policy*, Prentice-Hall
7. Pearce, J. A., II, and R. B. Robinson, Jr. *Strategic Management: Strategy Formulation, Implementation, and Control*, Chicago, IL: R. D. Irwin, Inc
8. Jean-Louis Schaan, & Micheál J. Kelly *Cases in Alliance Management: Building Successful Alliances*, SAGE Publications

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1120

MBA-302

ENTREPRENEURSHIP DEVELOPMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to expose the students to the growth of entrepreneurship in developing countries with special reference to India.*

Course Outcomes:

- CO1:** The students will be able to list various constituents of entrepreneurship development.
- CO2:** The students will be able to identify the various environmental factors affecting entrepreneurship development
- CO3:** The students will be able to demonstrate skills to develop business plan at individual level.
- CO4:** The students will be able to examine the feasibility of a business.
- CO5:** The students will be able to evaluate the funding alternatives available for entrepreneurs.
- CO6:** The students will be able to develop and implement a business plan.

Course Contents:

UNIT-I

Concept of Entrepreneur and Entrepreneurship, Entrepreneur vs. Manager, Significance of Entrepreneurship in Economic Development; Economic, Social and Psychological needs for Entrepreneurship; Characteristics, Qualities and Pre-requisites of Entrepreneur; Rural Entrepreneurship.

UNIT-II

The Function of the Entrepreneur in Economic Development of a Country; Methods and Procedures to start and expand one's own Business; Achievement Motivation; Environmental Factors affecting success of a new Business.


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UNIT-III

Feasibility Study -Preparation of Feasibility Reports: Selection of factory location, Economic, Technical, Financial and Managerial Feasibility of Project.

UNIT-IV

Government support to new Enterprises; Role of Government and Promotional agencies in Entrepreneurship Development; Entrepreneurship Development Programmes in India

Suggested Readings:

1. Clifton, Davis S & Fyfe, David E., *Project Feasibility Analysis*, John Wiley.
2. Desai, A N., *Entrepreneur & Environment*, Ashish Publications.
3. Drucker, Peter., *Innovation and Entrepreneurship*, Heinemann.
4. Jain R., *Planning a Small Scale Industry: A Guide to Entrepreneurs*, S.S. Books.
5. Kumar, S A., *Entrepreneurship in Small Industry*, Discovery.
6. McClelland, D C & Winter, W G., *Motivating Economic Achievement*, Free Press.
7. Pareek, Udai and Venkateswara Rao, T., *Developing Entrepreneurship -A Handbook Learning Systems*, Learning Systems

Important Instructions for the Course Coordinator and the Examiner:

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Registrar

Charu Jaiswal

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HS-12001

MBA 303**BUSINESS LEGISLATION****Time Allowed: 3 Hours****M.M: 70**

Course Objective: *The aim of the paper is to acquaint the students with the Business law and Company law in their future role as managers.*

Course Outcomes:

CO1: Students will be able to define laws applicable to a business.

CO2: Students will be able to classify different laws and explain their specific purpose.

CO3: Students will be able to illustrate cases of law and interpret own manner to solve the problems of business class

CO4: Students will be able to examine company laws and compare it with previous laws before amendment of 2013

CO5: Students will be able to evaluate the existing business laws in India and analyse their importance


CO6: Students will be able to formulate guidelines according to regulatory framework of an organisation

Course Contents:**UNIT-I**

The Indian Contract Act, 1872: Meaning of a Contract, Classification of Contracts, Essentials of a Valid Contract; Performance of a Contract; Discharge of a Contract; Breach of Contract; Quasi Contracts; Contract of Indemnity and Guarantee, Bailment and Pledge, Contract of Agency.

UNIT-II

The Sales of Goods Act, 1930: Meaning and essentials of a valid contract of sale, Distinction between sale and agreement to sell, Meaning of goods and their classification, Conditions and warranties, Doctrine of Caveat Emptor, Rights of an unpaid seller, Rights of buyer; Negotiable Instruments Act, 1881: Meaning and characteristics of negotiable instrument, Types of negotiable instruments and their characteristics, Holder and Holder-in-due-course, Discharge and Dishonour of negotiable instruments, Negotiation and Assignment.


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UNIT-III

The Companies Act, 2013; Meaning and Characteristics of a Company; Objects and Applications of Companies Act, 2013; Landmark provisions of new Companies Act, 2013; Classification of companies, Concept of One Person Company; Formation of a company, Memorandum and Articles of association, Prospectus, Allotment of shares and share capital, Membership in companies.

UNIT-IV

Meetings of Companies: General principles of meetings, Types of meetings; Prevention of Oppression and Mismanagement; Winding up of a Company; Consumer Protection Act: Define consumer rights, provisions regarding complaints in consumer courts, Unfair Trade Practices and Restrictive Trade Practices, Consumer Protection Council, Consumer forum.

Suggested Readings:

1. Gulshan, S.S. and Kapoor, G.K., *Business Law including Company Law*, New Age International Publication.
2. Macintyre, E., *Business law*, Pearson Education.
3. Tulsian, *Business law*, Tata McGraw Hill.
4. Majumdar A.K. and Kapoor G.K., *Company Law and Practices*, Taxmann Publication.
5. Kothari, V., *Understanding Companies Act, 2013*, Taxmann Publication.
6. Pathak, A., *Contract Law in India*, Oxford University Press.
7. Gogna, P.P.S., *A Textbook of Company Law*, S. Chand Publishing.
8. Nolakha, R.L., *Company Law and Practice*, Vikas Publishing House Private Limited.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
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Registrar

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Hisar-125001 (Haryana)

MBA-304

**SUMMER INTERNSHIP AND SEMINAR
(Internal)**

Time Allowed: 1 Hour

M.M: 50


Course Objective: *The objective of this course is to enable students to explore a career path and give themselves an edge in job market.*

Course Outcomes:

- CO1:** Students will be able to describe organizational structure and its functions with all the theoretical aspects learned in class room settings and simulated environment
- CO2:** Students will be able to identify (through understanding and learning the routine tasks within the organization) which work they would prefer to do after completion of MBA.
- CO3:** Students will be able to interpret the organizational dynamics in terms of organizational behavior, culture, competition, future strategies and change initiatives of the organization.
- CO4:** Students will be able to appraise the practical exposure and knowledge related to the job of their interest by working as an intern in any organization.
- CO5:** Students will be able to evaluate their learning during the internship phase and report it in form of a seminar.
- CO6:** Students will be able to assemble and present the learnings from internship.

Important Instructions for the Programme Coordinator and the Examiner:

- The list of students will be notified by the Programme Coordinator in the class along with the schedule of seminar presentation by each student during the semester.
- The Evaluation Committee duly constituted by the Director/Principal will invite a seminar presentation from each student on his/her summer training and the evaluation will be done on the basis of exposure to industry/academics, problem undertaken, communication skills, contents, delivery, body-language and question-answer handling skills of the student on a preform duly notified to the students in advance.


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MBA-401

**COMPREHENSIVE VIVA-VOCE (External)
(Compulsory for all the Students)**

M.M: 100

Course Objective: *The objective of the course is to enable students to get a thorough understanding of what conceptual knowledge they have acquired and how they will be able to express it unambiguously in a demanding situation*

Course Outcomes:

CO1: Student will be able to recall the important terms related to core and general courses of management.

CO2: Students will be able to explain their understanding about learnings from the programme.

CO3: Students will be able to demonstrate their soft and hard skills.

CO4: Students will be able to examine their own spontaneity, mannerisms and presence of mind which will help them in introspection for future such events (Job Interviews).

CO5: Students will be able to defend the knowledge about their respective field.

CO6: Students will be able to assemble their experiences gained during the programme.

Important Instructions for the Programme Coordinator and the Examiner:

- The Programme Coordinator will announce in the class in the beginning of the semester regarding the significance of the Comprehensive Viva-Voce Examination and the expectations of the Panel of Examiners from the passing out students of MBA Programme.
- The Panel of Examiners duly constituted by the COE/Director/Principal will conduct an oral viva-voce examination to assess the overall programme objectives and overall course outcomes achieved by the students, during the programmes, on the basis of communication skills, course contents, analytical ability and question-answer handling skills of the student on a proforma duly notified to the students in advance.

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HISAN-125001 (Haryana)

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1126
MBA-402

RESEARCH PROJECT
(Optional in lieu of one paper)

Time Allowed: 1 Hour

M.M: 100

Course Objective: *The objective of this course is to make students understand the scientific and systematic way of solving organizational problems by making valuable choices*

Course Outcomes:

- CO1: Students will be able to draw a management problem in a scientific manner.
- CO2: Students will be able to recognize the impediments and nuances associated with data requirements and find out the practical techniques of collecting data relevant for a research study.
- CO3: Students will be able to apply the conceptual knowledge in a practical situation and learn how to conduct a study and present it in form of a report.
- CO4: Student will be able to distinguish the appropriate data analysis techniques thus reporting the findings and suggestion associated with the problem at hand.
- CO5: Students will be able to evaluate the procedure for the scientific and systematic research in solving pragmatic problems of any organization.
- CO6: Student will be able to construct and formulate research problems objectively thus enabling themselves to make effective decisions.

Instructions for Research Project: The following instructions will be followed:

1. Research project, which is optional, should be from major or core area of specialization of the student and shall be in lieu of one paper of his/her major or core area of specialization.
2. Students opting for MBA-402 Research Project in the 4th semester will have to register for the project in Semester III itself by submitting a synopsis along with consent of the supervisor in the office of DDE by 30th November.
3. Research project will be accepted for submission and evaluation when at least one research paper out of the project work has been published or accepted in a research journal, or presented in any national conference/seminar. If a student fails to do so, then he/she has to give the presentation of the research project before a committee constituted by Director, DDE.

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4. The external examiner, appointed by the COE/Director, will evaluate the Research Project and will conduct viva-voce of 70 marks in the premises of DDE. However, the guide will submit the internal out of 30 marks separately.
 5. The panel of examiners/experts will be provided by Director, DDE. The internal examiner for assisting the external examiner for evaluation and conducting viva voce will be appointed by the Director, DDE.


Registrar
Jyoti Basu
Jyoti Basu University
Sri Lanka
HIS/AD 12/001 (11/04/00)

MBA-410**IN-COMPANY-PROJECT-WORK**
(Optional in lieu of 3 Elective Courses)**Time Allowed: 1 Hour****M.M: 300**

Course Objective: *The objective of this course is to make the already placed students to understand the procedural scientific and systematic way of solving organizational problems by making valuable choices.*

Course Outcomes:

- CO1:** Students will be able to outline the real issues faced by the organization.
- CO2:** Students will be able to convert their learning of research methods into a realistic research design for their topic of research.
- CO3:** Students will be able to apply the conceptual knowledge in a practical situation and learn how to conduct a study and present it in form of a report.
- CO4:** Students will be able to examine the impediments and nuances associated with data requirements and find out the practical techniques of collecting data relevant for a research study.
- CO5:** Student will learn to evaluate and select the appropriate data analysis techniques thus reporting the findings and suggestion associated with the problem at hand.
- CO6:** Students will be able to assemble and present the findings in a report.

Instructions for In-Company-Project-Work: The following instructions will be followed:

- If any student gets placement offer from any public or private sector organization during 4th semester and willing to join immediately, he or she may opt for In-Company-Project-Work-Report for which detailed guidelines will be notified separately, from time to time, after taking necessary approval of competent authority of the university.
- However, such In-Company-Project-Work-Report will be jointly supervised by the Academic Guide (to be nominated by the Director, DDE) and Industry Guide (to be appointed by the competent authority of the concerned Organization, who has offered appointment to our student and any pressing hard to join immediately). The Academic Guide will get two hour per week credit per students maximum up to ten credits in his or her teaching workload.
- The evaluation process will be along with detailed guidelines in this connection.

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Sector 4, Technology
HISAN-145001 (Haryana)

OPEN ELECTIVES

OE – 301 COUNSELING SKILLS FOR MANAGERS

Time Allowed: 3 Hours

M.M:70

Course Objective: *To develop basic skills among students to independently handle a wide range of employee counseling and performance counseling.*

Course Outcomes:

- CO1: Students will be able to recall different terms used in counselling.
- CO2: Students will be able to explain conceptual framework of counselling.
- CO3: Students will be able to demonstrate the process of counselling.
- CO4: Students will be able to differentiate between theories of counselling.
- CO5: Students will be able to evaluate practical solutions to human behaviour related problems in the organization
- CO6: Students will be able to develop his own model of counselling.

Course Contents:

UNIT-I

Introduction to Counseling- Emergence, Growth, Definition, Need, Goal, Role and Characteristics of Counselor and Counselee, Difference between Counseling and Psychotherapy, and General Principles of Counseling

UNIT-II

Approaches to Counseling- Psycho-analytical (Sigmund Freud Theory), Therapeutic (Alfred Adler Theory), Behaviouristic (B. F. Skinner Theory), Cognitive (Albert Ellis Model) and Humanistic Approaches (Carl Rogers Approach);

UNIT-III

Counseling Process- 5-D Model, the Phases of Counseling Process, Counseling Environment and Procedure, and the Core Conditions of Counseling; Counselor's Attitude and Skills of Counseling- Verbal and Non-verbal Communication Modalities, Listening Skills, Listening Barriers and Strategies to Overcome Listening Barriers;

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Organizational Applications of Counseling Skills- Identifying Problems and Coping Strategies with regard to Occupational Stress and Performance Management; Special Problems in Counseling- Selection of Counseling Strategies and Interventions, Changing Behavior through Counseling; Ethical and Legal Aspects of Counseling, and Current trends in Counseling.

1. Cormer, L.S., and Hackney, H., *The Professional Counselor's Process Guide Helping*, Englewood Cliffs, Prentice Hall Inc.
2. Moursund, J., *The Process of Counseling and Therapy*, Englewood Cliffs, Prentice Hall Inc.
3. Munro, C A, *Counseling: A Skills Approach*, Methuen.
4. Reddy, Michael, *Counseling at Work*, British Psychological Society and Methuen.
5. Rao, S. Narayana, *Counselling and Guidance*, Tata McGraw Hill.
6. Gladding, S. T, *Counseling- A Comprehensive Profession*, Pearson.
7. Singh, Kavita, *Counselling Skills for Managers*, Prentice Hall of India.

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar

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OE - 302

FUNDAMENTALS OF ECONOMETRICS

Time Allowed: 3 Hours

M.M:70

Course Objective: *Econometrics is concerned with quantifying economic relations, with the provision of numerical estimates of the parameters involved and testing hypotheses embodied in economic relationships. This course aims to provide a basic introduction to econometric analysis, to enable students to examine existing theories with empirical data. In doing so, it examines the difficulties inherent in confronting theory with business data in order to quantify relationships, in dealing with errors and problems in variables, which can be only observed but not controlled, and the means of compensating for uncertainty in data.*

Course Outcomes:

- CO1: Students will be able to define and memorize the various fundamental terms and concepts of econometrics.
- CO2: Students will be able to explain the basic assumptions, procedures and properties of various estimators.
- CO3: Students will be able to apply various data analysis models.
- CO4: Students will be able to compare the results obtained from various models.
- CO5: Students will be able to evaluate the results and test their statistical significance.
- CO6: Students will be able to develop a good quality research paper in finance and economics using the econometric methods

Course Contents:**UNIT-I**

Nature, scope and methodology of econometrics; Simple Linear Regression Model: Assumptions, Procedures and properties of OLS estimator, Co-efficient of determination, Tests of significance, Maximum Likelihood Method.

UNIT-II

Multiple Linear Regression Analysis: Method of least squares, Properties of OLS estimator, Test of significance of regression co-efficient, R^2 and adjusted R^2 ; Econometric Problems: Multi co linearity, Autocorrelation and Heteroscedasticity.

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UNIT-III

Dummy variables-Nature and uses, Regression on dummy variables, Regression on Dummy Dependent Variable-The basic idea of the Linear Probability Model (LPM), Probit and Logit Models. Dynamic Econometric Models: Koyck distributed lag model, the adaptive expectation model, and the partial adjustment model.

UNIT-IV

Simultaneous Equation Models: Structural, Reduced and final forms, Identification-Order and rank conditions, Methods for estimating the simultaneous models-Basic idea of Indirect Least Square (ILS) and Two Stage Least Square (2SLS) methods. Seemingly Unrelated Regressions (SUR), SUR versus OLS

Suggested Readings:

1. Greene, William H., *Econometric Analysis*, Macmillan.
2. Johnston, J., *Econometric Methods*, McGraw-Hill.
3. Gujarati, Damodar N., *Basic Econometrics*, McGraw-Hill.
4. Stock J. H. and Watson M.W. *Introduction to Econometrics*, Addison-Wesley Series in Economics.
5. Koutsoyiannis, A., *Theory of Econometrics*, Harper & Row.
6. Kmenta, J., *Theory of Econometrics*, Macmillan.
7. Maddala, G.S., *Introduction to Econometrics*, Macmillan.

Important Instructions for the Course Coordinator and the Examiner:

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OE - 303

PERSONAL FINANCE**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The main objective of this course is to make students learn the various aspects of personal finance.*

Course Outcomes:

- CO1:** Students will be able to describe the different concepts of personal finance.
- CO2:** Students will be able to explain the risk profiling.
- CO3:** Students will be able to demonstrate the skills in selecting financial products.
- CO4:** Students will be able to examine the different financial products according to their risk profile.
- CO5:** Students will be able to evaluate the different financial products on the basis of their cost and benefits.
- CO6:** Students will be able to design the different financial products keeping in mind macro and micro variables.

Course Contents:**UNIT-I**

Personal Finance: Meaning and importance. Financial planning: meaning, process and role of financial planner. Risk profiling: client data analysis, life cycle, wealth cycle. Asset allocation: Strategic, Tactical, Fixed and Flexible.

UNIT-II

Risk Management: Meaning, process and importance. Distinguish between risk assessment, risk management and risk avoidance. Assessment of requirement of Health Insurance, Life Insurance and General Insurance. Choice of products for risk coverage

UNIT-III

Investment Management: meaning and importance. Investment avenues: equity, debt, gold, real estate, mutual funds, exchange-traded funds. Portfolio management: meaning, construction, evaluation and revision. Loan management: meaning, types, importance and assessment, personal, car loan, home Loan etc.


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UNIT-IV

Tax planning: basics terms of income tax, advance tax, tax deduction at source, deductions under section 80C, 80 CCC, 80 D and 80 G. Taxation of investment products. Retirement planning, Management of nomination, power of attorney and will

Suggested Readings:

1. Kapoor Jack R, *Personal Finance*, The McGraw-Hill companies.
2. Huang. Stanley S C and Randall, Maury R., *Investment Analysis and Management*. Allyn and Bacon.
3. Gaungully, Ashok, *Insurance Management*, New Age Publishers, New Delhi.
4. Ahuja, G K & Gupta Ravi, *Systematic Approach to Income Tax*, Allahabad, Bharat Law House.
5. Pandian, *Security Analysis and Portfolio Management*, Vikas Publishing House, New Delhi.

Important Instructions for the Course Coordinator and the Examiner:

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OE-304

APPLICATIONS OF MARKETING**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The main objective of this course is to acquaint the students with the various aspects of applications of the marketing principles in corporate world.*

Course Outcomes:

- CO1:** Students will be able to outline with the various application areas of marketing.
- CO2:** Students will be able to explain the key concepts related to the application areas of marketing.
- CO3:** Students will be able to use the marketing concepts in interpreting marketing strategies.
- CO4:** Students will be able to appraise a marketing environment from different perspective.
- CO5:** Students will be able to judge the overall marketing mix strategy of an organization.
- CO6:** Students will be able to develop a basic marketing strategy for varied areas of marketing.

Course Contents:**UNIT-I**

Consumer Behavior: Introduction to consumer behavior, Understanding the role of internal and external influences on consumer behavior, Consumer Decision Making Process.

Sales and Distribution: Introduction to Sales, Its Importance, objectives and functions; Sales forecasting & designing sales territories; Distribution Channels: purpose & types of distribution channels.

UNIT-II

Retailing: Introduction to Retailing; Organized Vs Unorganized retailing, Types of Retail formats.

Internet marketing: Relevance of Internet Marketing, Web analytics, SEO, Social Media Marketing.

UNIT-III

Marketing of Services: Introduction to Services, Characteristics of Services compared to Goods, Service Mix, Gap model of Service Quality, Service classification.

Marketing Communication: Elements of Marketing Communication, Relevance of IMC, Designing a Marketing Communication Programme

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UNIT-IV

Industrial Marketing: Meaning and Concept of Industrial Marketing, Types of Industrial Customers, Classification of Industrial Products, Industrial Buying Process. Rural Marketing: Introduction to rural markets in India, Classification of products and services in rural marketing, Analysis of rural demand, Marketing Practices in rural market.

Suggested Readings:

1. Schiffman, L., & Wisenblit, J., *Consumer Behaviour*, Prentice Hall PTR.
2. Still, Richard R., Edward W. Cundiff, and Norman A.P. Govoni: *Sales Management*, Prentice Hall, New Delhi.
3. Christopher Lovelock, Jochen Wirtz and Jayanta Chatterjee, *Services Marketing*, Pearson Education
4. Bowersox and Others, *Physical Distribution Management*, Tata McGraw Hill, New Delhi.
5. Levy Micheal, Weitz Barton A. And Pandit Ajay, *Retailing Management*, Tata McGraw Hill, New Delhi
6. Havalder, Krishna K., *Industrial Marketing*, TMH, New Delhi.
7. George E. Belch, Michael A. Belch and Keyoor, Purani, *Advertising and Promotion*, McGraw Hill Education.
8. Charlesworth, A., *Internet Marketing: A Practical Approach*, BH Publications.
9. Acharya S. S. and Agarwal N. L., *Agricultural Marketing in India*, Oxford & IBH Publishing Co.

Important Instructions for the Course Coordinator and the Examiner:

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OE-305 EXPORT IMPORT PROCEDURES AND DOCUMENTATION**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The aim of the course is to acquaint the students with the export-import procedures and documentation*

Course Outcomes:

CO1: Students will be able to describe the legal framework and procedure governing international trade.

CO2: Students will be able to explain the incorporation of various terms in drafting of an export contract and understand the importance of risk management.

CO3: Students will be able to apply the concepts learned in terms of export order, delivery and international trade pricing to actual transactions.

CO4: Students will be able to appraise the role and importance of export-import documentation and procedure framework according to commodities and countries.

CO5: Students will be able to evaluate the nuances of import and export clearance procedures.

CO6: Students will be able to develop the skills to export-import various commodities in different countries and avail benefits of various export incentives and promotional schemes given by government.

Course Contents:**UNIT- I**

Export Preliminaries, Documentation in international trade: Aligned Documentation System (ADS); Commercial documents, Regulatory documents, Documents related to goods, shipment, payment, inspection and legal regulated documents, Official machinery for consultation.

UNIT- II

Export contract: Distinction between domestic sales contract and export sales contract, Major laws for export contracts, Elements in export contracts, Dispute settlement, Role of ICC; INCOTERMS, Containerization.


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UNIT- III

Export order processing; shipping and custom clearance of export and import cargo; central excise clearance; Role of clearing and forwarding agents. Types of risks in international trade, Cargo Insurance and claim Procedures

UNIT- IV

Methods of payment in international trade; documentary collection of export bills, UCPDC guideline, Instruments of payments, Pre-shipment and post-shipment finance, Negotiation of documents with banks, Main Provisions of FEMA; Procedure and documentation for availing export incentives.

Suggested Readings:

1. C. Rama Gopal, Export Import Procedures, Documentation and Logistics, New Age International Publishers, New Delhi.
2. M. D. Jitendra, *Export Procedures and Documentation*, Rajat Publications.
3. Pervin Wadia, *Export Markets and Foreign Trade Management*, Manishka Publications.
4. Paras Ram, *Export: What, Where and How*, Anupam, Publications.
5. Government of India, *Handbook of Import - Export Procedures*.
6. Nabhi's Exporters Manual and Documentation.
7. Nabhi's New Import-Export Policy Procedures

Important Instructions for the Course Coordinator and the Examiner:

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OE-306 CORPORATE GOVERNANCE AND BUSINESS ETHICS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to sensitize the students about the various ethical and corporate governance issues in business management in the current environment.*

Course Outcomes:

- CO1: Students will be able to describe the different concepts of corporate governance.
- CO2: Students will be able to explain the ethical dimension of doing business.
- CO3: Students will be able to demonstrate the skills in implementing governance related matters
- CO4: Students will be able to examine the different issues pertaining to corporate social responsibility of business.
- CO5: Students will be able to evaluate the regulatory aspects of corporate governance.
- CO6: Students will be able to design practical ways of inculcating ethics in various functions and operations of business.

Course Contents:**UNIT-I**

Evolution of corporate governance; developments in India; regulatory framework of corporate governance in India; SEBI guidelines on corporate governance; reforms in the Companies Act

UNIT-II

Corporate management vs. governance; internal constituents of the corporate governance; key managerial personnel (KMP); chairman- qualities of a chairman, powers, responsibilities and duties of a chairman; chief executive officer (CEO), role and responsibilities of the CEO.

UNIT-III

Introduction to Business Ethics: The concept, nature and growing significance of Ethics in Business, Ethical Principles in Business, Ethics in Management, Theories of Business Ethics, Ethical Issues in Business, Business Ethics in 21st Century.

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UNIT-IV

Ethics in various functional areas of Business: Ethics in Finance, Ethics in HRM, Ethics in Marketing, Ethics in Production and Operation Management.

Suggested Readings:

1. Mallin, Christine A., *Corporate Governance (Indian Edition)*, Oxford University Press, Delhi.
2. Blowfield, Michael, and Alan Murray, *Corporate Responsibility*, Oxford University Press.
3. Francesco Perrini, Stefano, and Antonio Tencati, *Developing Corporate Social Responsibility-A European Perspective*, Edward Elgar.
4. Sharma, J.P., *Corporate Governance, Business Ethics & CSR*, Ane Books Pvt Ltd, New Delhi.
5. Manuel G. Velasquez, *Business Ethics*, Pearson Prentice Hall.
6. Ravindranath B. & Narayana B., *Business Ethics*, Vrinda Publications Pvt. Ltd

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

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INDIAN ETHOS AND VALUES

M.M:70

Course Outcomes:

CO6: Students will be able to develop ways to solve real-life problems related to human behaviour based on his understanding on Indian ethos and values.

Course Contents:

UNIT- I

Indian Ethos: Meaning of Bharat, relevance of Indian ethos, role of Indian ethos in managerial practices; Sources of Indian Ethos in Management: Vedas, Ramayana, Bible, Quran, Kautilya's Arthashastra, Ethics v/s Ethos; Indian Management v/s Western Management

UNIT- II

Modern Approach towards Indian Ethos : Introduction, Indian Management Thoughts, Holistic Approach to Management; Sadhana –In Management context, The Tatwas in Indian Ethos; Management Thoughts and Practice: Harmony with Environment, Dharma, Swadharma and Detachment, Holistic approach to Personality, Managerial Purusharth Karma yoga & enlightened leadership

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UNIT- III

Learning and Education System in India: Learning concept, Gurukul System of Learning, The beginning of modern education system, Achievements of the Indian education system; Law of Karma, Law of creation, law of humility, law of growth, law of responsibility

UNIT- IV

Human Values: Meaning, significance, Vedic literature and values, formation of values, Aristotle's view on value inculcation, Objectives of value-based system, Interrelation of Values and Skills, Values and the workplace, Value-based Human response management, Need of value-based holistic management, Value-driven management, Indian culture and wisdom, The ethical and spiritual values and Methods of heart and mind purification

Suggested Readings:

1. Agarwal, T. & Chandorkar, N., *Indian Ethos in Management*, Himalaya Publishing House
2. Nandgopal, R. & Sankar, R.N.A., *Indian Ethos & Values in Management*, Tata McGraw Hill Education
3. Ganjre, A.K., Pawar, P. & Laxman R., *Indian Ethos - Modern Management Mantra*, Himalaya Publishing House
4. Bansal, I., *Management Concept in ancient India psycho-philosophic thought and their significance in present day organization*, Jaipur, Narayan Publication
5. Sharma. S., *Management in New Age: Western Windows Eastern Doors Management*, New Age International

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

OE: 308 COMPUTER APPLICATIONS IN BUSINESS AND CYBER SECURITY**Time Allowed: 3 Hours****MM: 70**

Course Objective: *The Objective of this course is to familiarize the student with basic concepts of information technology, its application in business and make them conscious of cyber security laws and practice.*

Course Outcomes:

- CO1:** Students will be able to relate with various software related to office application.
- CO2:** Students will be able to explain and identify electronic data transfer takes place and will be able to handle data base management systems.
- CO3:** Students will be able to use and operate telecommunication networks which are most commonly used in organizations.
- CO4:** Students will be able to question and test the various operations of the internet.
- CO5:** Students will be able to evaluate and examine the perspectives of cyber security hence bearing ethical responsibility.
- CO6:** Students will be able to develop solutions for real-life problems based on computer applications and cyber security.

Course Contents:**UNIT-I**

Software Packages for Office Applications- Word Processing using MS Word, Spreadsheets using MS Excel, Presentations using MS PowerPoint, Creating web pages and web applications with HTML, Business functionalities using Tally software.

UNIT-II

Electronic Data Processing: An introduction; Data processing cycle; data hierarchy; data file structure; file organization, Data Base Management Systems

UNIT-III

Telecommunication and Networks: Types of Telecommunication Networks, Telecommunications Media, Network Topologies, Network Architectures-The OSI Model. The Internet, Intranet and Extranets: Operation of the Internet, Services provided by Internet, World Wide Web, Intranet and Extranets.

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Cyber Security: Perspective of Cyber security, Application security, Information security, Network security, End-user education, Cryptography / Encryption, Security issues in wireless, Security Threats and Vulnerabilities, Ethical Responsibility - Business Ethics, Technology Ethics; Cyber Crime and Privacy Issues. Brief introduction to Information Technology Act, 2000, IT (Amendment) Act

UNIT-IV

Suggested Readings:

1. Ram, B., *Computer Fundamentals*, New Age Publications.
2. Rajaraman, V., *Introduction to Information Technology*, PHI.
3. Shrivastava., *Fundamental of Computer & Information Systems*, Wiley Dreamtech.
4. Chwan-Hwa (John) Wu, J. David Irwin, *Introduction to Computer Networks and Cybersecurity*, CRC Press.
5. Aparna Viswanathan, *Cyber Law*, Lexis Nexis Butterworths

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of four short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry 8 marks each. The maximum time allotted for the major test is 03 (three) hours.

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OE-309

DISASTER MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The basic purpose of this course is to understand the framework for evaluating disaster management regarding the capital expenditure proposals, their planning, finance, appraisal and management in the review of the projects undertaken.*

Course Outcomes:

- CO1:** Students will be able to explain the importance, scope and functions of Disaster Management.
- CO2:** Students will be able to illustrate the Life Cycle of any given disaster management project.
- CO3:** Students will be able to sketch estimation of Guidelines for Time, Costs and Resources required for Disaster Management by applying different methods.
- CO4:** Students will be able to examine the Scheduling Resources and Reducing Disaster Duration.
- CO5:** Students will be able to evaluate Role and Responsibilities of the Disaster Manager, Planning, Organizing, Controlling, Skills of the Disaster Manager.
- CO6:** Students will be able to formulate strategies for risk reduction in Disaster.

Course Contents:**UNIT-I**

Introduction to Disasters: Concepts, and definitions (Disaster, Hazard, Vulnerability, Resilience, Risks) Disasters: Classification, Causes, Impacts (including social, economic, political, environmental, health, psychosocial, etc.), Differential impacts- in terms of caste, class, gender, age, location, disability, Global trends in disasters, urban disasters, pandemics, complex emergencies, Climate change

UNIT-II

Approaches to Disaster Risk reduction: Disaster cycle its analysis, Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural- nonstructural measures, roles and responsibilities of- community, Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), states, Centre, and other stake-holders.

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UNIT-III

Inter-relationship between Disasters and Development: Factors affecting Vulnerabilities, differential impacts, impact of Development projects such as dams, embankments, changes in Land-use etc. Climate Change Adaptation. Relevance of indigenous knowledge, appropriate technology and local resources

UNIT-IV


Disaster Risk Management in India Hazard and Vulnerability profile of India, Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management Institutional arrangements (Mitigation, Response and Preparedness, DM Act and Policy, Other related policies, plans, programmes and legislation), Contemporary issues in Disaster Management including COVID-19.

Suggested Readings:

1. Alexander David, Introduction in 'Confronting Catastrophe', Oxford University Press
2. Andharia J. Vulnerability in Disaster Discourse, JTCDM, Tata Institute of Social Sciences Working Papers
3. Blaikie, P, Cannon T, Davis I, Wisner B At Risk Natural Hazards, Peoples' Vulnerability and Disasters, Routledge.
4. Coppola P Damon, Introduction to International Disaster Management,
5. Carter, Nick Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.
6. Cuny, F. Development and Disasters, Oxford University Press.
7. Document on World Summit on Sustainable Development.

Important Instructions for the Course Coordinator and the Examiner:

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HUMAN RESOURCE MANAGEMENT AREA

THIRD SEMESTER

HRM-301 MANAGEMENT OF INDUSTRIAL RELATIONS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *Organizational efficiency and performance are intricately interlinked with industrial relations. This course attempts to appreciate the conceptual and practical aspects of industrial relations at the macro and micro levels.*

Course Outcomes:

- CO1:** Students will be able to describe the basic concepts of Industrial Relations.
- CO2:** Students will be able to explain the importance of organized trade unions.
- CO3:** Students will be able to apply the process of collective bargaining between managers and workers.
- CO4:** Students will be able to appraise the process of resolving industrial disputes in industrial organizations.
- CO5:** Students will be able to evaluate and compare the industrial relations scenario of different countries.
- CO6:** Students will be able construct cases of industrial disputes/ relations of corporate sector.

Course Contents:**UNIT-I**

Industrial Relations: Concept, evolution, significance, perspectives and organization; Anatomy of industrial relations; Industrial relations and the State; Trade Unions: Concept, significance, types, approaches and objectives, Problems of trade unions in India and recommendations of National Commission on labour for strengthening of trade unions.

UNIT-II

Collective Bargaining: concept, importance and process of bargaining; Participative Management: Forms of worker's participation in management; Tripartite and bipartite bodies; Standing order and Grievance procedure; Code of Discipline

UNIT-III

Industrial Disputes: Conciliation and Board of conciliation; Arbitration: types and evaluation; Adjudication: Three tier System, Model principles for reference of dispute to adjudication.

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UNIT-IV


Modern and international Scenario of Industrial relations: Industrial Relations and Technological Change; Industrial Relations and HRD; ILO and Industrial Relations; Legal Framework of Industrial Relations; Industrial Relations systems in India, UK, USA and Japan.

Suggested Readings:

1. Mamoria & Manoria, *Dynamics of Industrial Relations*; Himalaya Publishing House.
2. Niland, J R., *The Future of Industrial Relations*, Sage.
3. Davar; R.S., *Personnel Management and Industrial Relations*; Vikas Publishing House Pvt Ltd.
4. Ltd.
5. Manappa, A., *Industrial Relations*; Tata McGraw Hill Publishing Company Ltd.
6. Dwivedi; R.S., *Managing Human Resources and Industrial Relations*. Galgotia Publishing Company.
7. Company.
8. Srivatava; S.C., *Industrial Relations and Labour Laws*, Vikas Publishing House Pvt Ltd.
9. Venkata Ratnam, C.S., *Industrial Relations*; Oxford University Press.
10. Sen, R. *Industrial Relations in India*; Macmillan India Ltd.

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HRM-302**HUMAN RESOURCE PLANNING****Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this paper is to develop a conceptual as well as a practical understanding of the students regarding human resource planning in organizations*

Course Outcomes:

CO1: Students will be able to recall different terms used in Human Resource Planning.

CO2: Students will be able to explain conceptual framework of HRP.

CO3: Students will be able to demonstrate the process of HRP.

CO4: Students will be able to compare job related techniques.

CO5: Students will be able to evaluate practical solutions of problems related to manpower planning in the organization.

CO6: Students will be able to develop their own model of HR planning suitable to the organization.

Course Contents:**UNIT-I**

Human Resource Planning: Concept, Objectives, Benefits, Problems; Strategic Human Resource Planning; Job Analysis

UNIT-II

Human Resource Planning Process and Action Plans: Human Resource Demand Forecasting: Assessment and Techniques; Human Resource Supply Forecasting: Assessment and Techniques; Action plans for Recruitment and Selection, Separation, Retention, Training and Redeployment

UNIT-III

Productivity Management and Human Resource Planning: Work Study, Method Study, Work Measurement, Job Design, Work Scheduling

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School of Technology

Bhubaneswar-751001 (Odisha)

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Suggested Readings:

1. Sekhri, A., Human Resource Planning & Audit, Himalya Publishing House
2. Bhattacharyya D.K., *Human Resource Planning*, Excel Books India.
1. Dessler, G., *Human Resource Management*, Prentice Hall of India
2. Rao, V.S.P., *Human Resource Management*, Excel Books
3. Ashwathappa, K., *Text & Cases in Human Resources Management*, Tata McGraw Hill
4. D'Cenzo, David A. and Robbins, S. P., *Human Resource Management*, John Wiley
5. Gomez-Mejia, Luis R., D. B. Balkin, and. Cardy, R. L., *Managing Human Resources*, Prentice Hall
6. Rothwell, W. J., & Kazanas, H. C., *Planning and Managing Human Resources*, Jaico Publishing House
7. Stevenson, W., *Operations Management*, McGraw Hill

Important Instructions for the Course Coordinator and the Examiner:

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1154

HRM-303

COMPENSATION MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The course is designed to promote understanding of issues related to the compensation or rewarding human resources in the corporate sector, public services and other forms of organizations and to impart skills in designing, analyzing and restructuring reward management systems, policies and strategies.*

Course Outcomes:

- CO1: Students will be able to recall different terms used for compensation management.
- CO2: Students will be able to explain various compensation management techniques.
- CO3: Students will be able to demonstrate the process of fixing compensation for various employees of organisations.
- CO4: Students will be able to compare compensation practices of various companies.
- CO5: Students will be able to evaluate compensation practices of multinational companies.
- CO6: Students will be able to develop compensation plans for managers of middle scale organisations.

Course Contents:

UNIT-I

Compensation Management- Concept, objectives, nature, types, compensation responsibilities, compensation philosophies & approaches.

UNIT-II

Bases for pay- traditional bases, incentive pay and person-focused pay; Pay for Performance, Competency Based Pay, Team rewards; Designing Compensation System- internal alignment (job analysis and job evaluation), external competitiveness and individual contribution.

UNIT-III

Employee Benefits- legally required benefits, discretionary benefits and key issues in employee benefits; Compensating Executives, Laws relating to Compensation.

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695 014, KERALA

UNIT-IV

Contemporary Strategic Compensation Challenges- compensation practices of multinational corporations and working of different institutions related to reward system like wage boards, pay commissions.

Suggested Readings:

1. Martocchio, Joseph J, *Strategic Compensation: A Human Resource Management Approach*, Pearson Education.
2. Milkovich and Newman, *Compensation*, Tata McGraw-Hill.
3. Armstrong, Michel and Murlis, Helen, *Reward Management: A Handbook of Salary Administration*, Kogan Page.
4. Bhattacharya, M.S.& Sengupta, N., *Compensation Management*, Excel Books

Important Instructions for the Course Coordinator and the Examiner:

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HRM-304 MANAGING INTERPERSONAL AND GROUP PROCESSES**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The purpose of this course is to advance understanding regarding interpersonal and group processes and help the students to examine and develop process facilitation skills mainly through laboratory and other experience based methods of learning.*

Course Outcomes:

CO1: Students will be able to define different concepts of Interpersonal and group processes.

CO2: Students will be able to explain interpersonal behaviour.

CO3: Students will be able to demonstrate the role of transactional analyses in interpersonal behaviour.

CO4: Students will be able to compare various group decision making techniques.

CO5: Students will be able to evaluate the role of negotiations in group conflicts.

CO6: Students will be able to construct their own interpersonal behaviour model.

Course Contents:**UNIT-I**

Group dynamics: types of groups, group properties, roles, norms, status and size, stages of group development and change; Group cohesiveness: factors contributing to group cohesiveness, Influence processes- power and politics in groups.

UNIT-II

Interpersonal communication: Uncertainty reduction theory, Social exchange theory, Cognitive dissonance theory; Interpersonal awareness and feedback process- Transactional Analysis; Interpersonal trust; Competition and cooperation.

UNIT-III

Group decision making: The Vroom Yetton Model, Techniques of group decision-making, Advantages and disadvantages of group decision-making; Group synergy; Team building.


Registrar

Dr. Jyoti K. Shinde
S. & Technology
1125004 (Haryana)

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UNIT-IV


Inter-group relation and conflict: nature and types of conflicts, causes of conflicts and remedial measures of group conflicts, Role of Negotiation in group conflicts; distributive and integrative negotiation, third party negotiation; Fundamental interpersonal relations orientation (FIRO-B).

Suggested Readings:

1. Chandan, J S, Organizational Behaviour, Vikas Publication.
2. Kolb, D., *Organizational Behaviour: Practical Readings for Management*, Englewood Cliffs, Prentice Hall Inc.
3. Mainiero, L A & Tromley C L., *Developing Managerial Skills in OB*, Prentice Hall of India,
4. Moore, M D., *Inside Organizations: Understanding the Human Dimensions*, Sage.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


Registrar
Guru Jambheshwar University of
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Hoshiarpur-150001

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HRM-305

STRATEGIC HUMAN RESOURCE MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The primary concern to this course is to develop in depth understanding of the strategic role performed by HR in business organizations and to gain insight of the alignment between different HR systems and practices and organizational outcomes.*

Course Outcomes:

CO1: Students will be able to recall different terms used in strategic human resource management.

CO2: Students will be able to explain the practical importance of SHRM.

CO3: Students will be able to illustrate the various SHRM practices.

CO4: Students will be able to compare various SHRM practices practised by corporate sector.

CO5: Students will be able to evaluate practical implementation of various SHRM practices.

CO6: Students will be able to develop SHRM model for middle and small scale organisations.

Course Contents:

UNIT-I

Concept of SHRM and HR environment: investment perspective of SHRM, evolution of SHRM, barriers to strategic HR, role of HR in strategic planning.

UNIT-II

Strategic fit frameworks: linking business strategy and HR strategy, HR bundles approach, best practice approach, business strategy and human resource planning, HRM and firm performance linkages: Measures of HRM performance, sustained competitive advantages through inimitable HR practices.

UNIT-III

HR Systems: staffing systems, reward and compensation systems, employee and career development systems, performance management systems.

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Sector 10, Technology
Bilaspur-125001 (Haryana)

UNIT-IV

Strategic options and HR decisions: Downsizing and restructuring, outsourcing and off shoring, Other HR practices/decisions.

Suggested Readings:

1. Mello, Jeffrey A., *Strategic Human Resource Management*, Thomson Learning Inc.
2. Agarwal, Tanuja, *Strategic Human Resource Management*, Oxford University Press.
3. Dreher, George & Thomas Dougherty, *Human Resource Strategy*, Tata McGraw Hill.
4. Greer, Charles, *Strategic Human Resource Management*, Pearson Education.
5. Belcourt, Monica & Kenneth McBay, *Strategic Human Resource Planning*, Thomson Learning Inc.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar

Dr. Jatin Chandra
Secretary of
Society of Learning
E18AH-12500 (Harvard)

HRM-306

LEADERSHIP DYNAMICS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The purpose of this course is to enhance the leadership skills of students and to develop insight into interpersonal dynamics through sensitivity training and experience based methods of learning.*

Course Outcomes:

CO1: Students will be able to recall different terms used in leadership dynamics.

CO2: Students will be able to explain conceptual framework of leadership dynamics.

CO3: Students will be able to apply various leadership theories in practical life.

CO4: Students will be able to compare the leadership styles practised by famous personalities.

CO5: Students will be able to evaluate various contemporary issues in leadership.

CO6: Students will be able to develop their own particular style of leadership.

Course Contents:**UNIT-I**

Leadership Dynamics: Concept, Leadership and Management, Leadership and Power, Successful Leadership versus Effective Leadership.

UNIT-II

Leadership Approaches: Trait Approach, Skills Approach, Behavioral Approach, Situational Approach, Contingency Approach, Path Goal Approach.

UNIT-III

Leadership Styles: Autocratic, Democratic, Participative, Supportive, Free-rein; Comparative Analysis of Leadership Styles, Building Effective Leadership Styles, Leadership Styles of Famous Personalities in general perspective and in managerial perspective.

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 Hisar-125001 (Haryana)

UNIT-IV

Contemporary Issues in Leadership: Charismatic Leadership, Women Leadership, Multicultural Leadership, Team Leadership, Ethics in Leadership, Servant Leadership, Transactional and Transformational leadership.

Suggesting Readings:

1. Northouse, G. P., *Leadership: Theory and Practice*, Sage Publications.
2. Yukl, G., *Leadership in Organizations*, Pearson.
3. Hersey, P., Blanchard, K.H. and Johnson, D.E., *Management of Organisational Behaviour*, PHI.
4. Daft, L. R., *The Leadership Experience*, Cengage Learning.
5. Haldar, U. K., *Leadership and Team Building*, Oxford University Press.
6. Tripathi, D. K., *Team Building and Leadership*, Himalaya Publishing House.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar
Guru Jambheshwar University of
Siksha & Research
Haryana-125007 (Bhiwani)

HRM-307

BUSINESS NEGOTIATIONS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *To develop a set of conceptual frameworks that will help students to better analyze negotiations in general and master the business negotiation skills.*

Course Outcomes

- CO1:** Students will be able to describe the fundamentals of business negotiation.
- CO2:** Students will be able to explain the power of business negotiation in resolving differences across personalities, gender and culture.
- CO3:** Students will be able to apply the process of business negotiation in resolving organisational conflicts.
- CO4:** Students will be able to compare negotiation strategies in resolving organisational conflicts.
- CO5:** Students will be able to appraise the negotiation strategies for resolving differences at individual and organisational levels.
- CO6:** Students will be able to develop innovative negotiation strategies for resolving conflicts.

Course Contents:**UNIT-I**

Negotiation Fundamentals: Nature of Negotiations and conflicts; Distributive and Integrative Negotiation; Negotiation Strategy and Planning: Unilateral vs. Bilateral Strategies, Planning Process, Negotiation Sub Processes: Perception, Cognition, Emotions, and Communication.

UNIT-II

Negotiation Power: Influence Process, Negotiation Contexts: Relationships in Negotiation; Forms of relationships; Key elements in managing relationships, Agents, Constituents and Audiences: Coalitions, Standards for coalition decision making, Multiple Parties and Teams

UNIT-III

Individual Differences I: Personality and Negotiations, Individual Differences II: Gender and Negotiations, Negotiation across Cultures: International and Cross Cultural Negotiations, Culture and negotiation, Managerial and research perspective on cross cultural negotiation.

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HISAB-125001 (Haridwar)

UNIT-IV

Resolving Differences: Managing Negotiation Impasses; Nature of impasses, resolving impasses; Negotiation Mismatches: Managing the shadow negotiation and social contract, Ury's Breakthrough Approach; Managing difficult negotiation: Third Party Approaches; Ethics in Negotiation.

Suggested Readings:

1. Lewicki Roy J. , Saunders David M. & Barry Bruce, *Negotiations*, Tata McGraw Hill.
2. Brett, J. M., *Negotiating Globally*, Francisco, Josseys-Bass.

Important Instructions for the Course Coordinator and the Examiner:

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- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar

Jyoti Jambheshwar University of
Science & Technology
HISAH-125491 (Mumbai)

HRM-308

TRAINING AND DEVELOPMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The purpose of this paper is to provide an in-depth understanding of the role of training in organizations and to enable the course students to manage the training systems and processes.*

Course Outcomes:

- CO1:** Students will be able to describe the key concepts associated with training and development.
- CO2:** Students will be able to explain the training and development process.
- CO3:** Students will be able to interpret the training needs assessment of various employees.
- CO4:** Students will be able to differentiate between traditional and modern methods of training and development.
- CO5:** Students will be able to evaluate the effectiveness of training and development.
- CO6:** Students will be able to design training programme for various categories of employees.

Course Contents:**UNIT-I**

Introduction to Training and Development: Concept, Objectives, Types, Importance, Role of Training and Development in HRD, Role, Responsibilities and Challenges of Training Manager, Strategic Training; Overview of Training Process.

UNIT-II

Assessment: Training Needs Assessment-Organizational analysis, Person analysis, Task analysis; Objectives Setting; Learning: Theories and Programme Design, Principles of Adult Learning.

UNIT-III

Implementation: Traditional and Modern Training Methods; Role of Technology in Training; Training Aids; Training Climate.

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Sci. & Technology
Huda-125001 (Haryana)

UNIT-IV

Evaluation: Concept, Process of Evaluation, Evaluation designs, Training Effectiveness, Transfer of Training; Future of Training and Development.

Suggested Readings:

1. Noe, R. A., *Employee Training and Development*, McGraw Hill
2. Blanchard, P. N., Thacker, J.W. and Ram, V.A., *Effective Training: Systems, Strategies and Practices*, Allyn and Bacon
3. Beebe, S.A., Mottet, T. P. & Roach, K. D., *Training and Development: Enhancing Communication and Leadership Skills*, Allyn and Bacon.
4. Dessler, G., *Human Resource Management*, Prentice Hall of India
5. Rao, V.S.P., *Human Resource Management*, Excel Books
6. Buckley, R. & Caple, J., *The Theory & Practice of Training*, Kogan Page.
7. Lynton, R. & Pareek, U., *Training for Development*, Sage Publications.

Important Instructions for the Course Coordinator and the Examiner:

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- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


Registrar

Guru Jangheshwar University of
Science & Technology
919411-125001 (Haridwar)

FOURTH SEMESTER

HRM-401

LABOUR LAWS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The course aims to provide an understanding, application and interpretation of the various labour laws and their implications for industrial relations and labour issues.*

Course Outcomes:

CO1: Students will be able to list the labour laws and related terminology.

CO2: Students will be able to explain the importance of various labour legislations.

CO3: Students will be able to apply the knowledge of labour laws in their working organizations.

CO4: Students will be able to appraise the implementation of various labour laws.

CO5: Students will be able to evaluate the practical implementation of various labour laws.

CO6: Students will be able to develop various case laws pertaining to labour issues for corporate sector.

Course Contents:**UNIT-I**

Introduction, Emergence, Need and Objectives of Labour Laws; Principles of Modern Labour Laws; Classification of Labour Laws; ILO, Indian Constitution and Labour Legislations, Code of Labour Laws.

UNIT-II

Regulative Labour Laws: Trade Union Act; Industrial Dispute Act; Factory Act.

UNIT-III

Wage-Related Labour Laws: Payment of Wages Act; Minimum Wages Act; Payment of Bonus Act; Payment of Gratuity Act.

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HISAK-125001

UNIT-IV


- ♦ Social Security Labour Laws: Workmen's Compensation Act; Employees' State Insurance Act; Employees Provident Fund and Miscellaneous Provisions Act.

Suggested Readings:

1. Singh, B.D., *Labour Laws for Managers*, Excel Books
2. Malik, P L., *Handbook of Industrial Law*, Eastern Books.
3. Kapoor, N.D., *Mercantile Law*, Sultan Chand and Sons.
4. Taxmann's Labour Laws, Taxmann Publishing Pvt. Ltd.
5. Srivastava, S. C., *Industrial Relations and Labour Law*, Vikas Publishing House.
6. Latest Bare Act of each Act.

Important Instructions for the Course Coordinator and the Examiner:

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Registrar
Guru Jambheshwar University,
Science & Technology
Hisar-125001 (Haryana)

HRM-402

HUMAN RESOURCE DEVELOPMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The purpose of this course is to facilitate an understanding of the concept, framework and applications of HRD. This course is intended to make students capable of applying the principles and techniques for developing human resources in an organization.*

Course Outcomes:

CO1: Students will be able to describe the concept of human resource development.

CO2: Students will be able to discuss various HRD applications or interventions.

CO3: Students will be able to interpret HRD needs of various employees.

CO4: Students will be able to appraise the influence of HRD on employee behavior

CO5: Students will be able to evaluate the effectiveness of various HRD programmes.

CO6: Students will be able to design effective HRD programmes for employees in organizational settings.

Course Contents:

UNIT-I

Foundations of Human Resource Development (HRD): Evolution, Concept, Goals, Benefits, Functions; Roles and Competencies of HRD professionals; Influence of HRD on Employee Behavior; HRD and Learning; Challenges in HRD.

UNIT-II

Framework for HRD: Assessing HRD needs, Designing and developing effective HRD programme; Implementing HRD programs, Evaluating effectiveness of HRD Programs: Purpose, Models and Framework of Evaluation, HRD Audit, Ethical Issues in Evaluation; HRD Climate and Culture, HRD strategy

UNIT-III

HRD Applications: Coaching and Mentoring, Socialization and Orientation, Training and Development, Career management and development, Potential appraisal and development, Succession Planning, Employee counseling, Competency mapping, Organization Development and Change, People Capability Maturity Model (PCMM), Quality of Work Life.

Registrar

UNIT-IV


Contemporary Issues in HRD: HRD and Diversity-HRD programmes for culturally diverse employees, Adapting to Labour Market Changes, HRD practices in Indian and International organizations.

Suggested Readings:

1. Desimone, Werner, Human Resource Development, Cengage Learning.
2. Haldar, U. K., *Human Resource Development*, Oxford Publications
3. Krishnaveni, R., *Human Resource Development*, Excel Books.
4. Wilson, J.P., *Human Resource Development*, Kogan page.
5. Rao, T.V., *Future of HRD*, Macmillan Publishers India.
6. Rao, T.V., *Human Resource Development*, Experiences, Interventions, Strategies, SAGE Publications.
7. Mankin, D., *Human resource development*, Oxford University Press India.
8. Curtis, B., Hefley, W. E., Miller, S. A., *The People Capability Maturity Model: Guidelines for Improving Workforce*, Pearson Education.

Important Instructions for the Course Coordinator and the Examiner:

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Registrar
Guru Jambheshwar University of
Science & Technology
Jodhpur-342001 (Rajasthan)

HRM- 403

PERFORMANCE MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to acquaint the students regarding the concept, importance, process and implementation of performance management system in an organization.*

Course Outcomes:

CO1: Students will be able to recall different terms used in performance management.

CO2: Students will be able to identify various performance management practices.

CO3: Students will be able to interpret various performance management techniques.

CO4: Students will be able to compare performance management practices of different companies.

CO5: Students will be able to evaluate the implementation of various performance management practices.

CO6: Students will be able to develop a performance management model for corporate sector.

Course Contents:

UNIT-I

Foundations of Performance Management: Concept, Objectives, Significance of Performance Management, Performance Management Process, Performance Management and Strategic Planning, Performance Management and Performance Appraisal.

UNIT-II

Implementation of Performance Management System: Defining Performance and Choosing Measuring Approach, Models for assessing performance: balanced Scorecard, EFQM Model; Outcome Metrics: Economic Value added (EVA) & other economic measures; Measuring Results and Behavior, Common Problems in Employee Assessment, Gathering Performance Information, Implementing a Performance Management System.

UNIT-III

Performance Management and Employee Development: Personal Developmental Plans, 360 Degree Feedback Systems, Performance Management Skills, Contribution of Human Resource Management Practices to Employee Performance.

Registrar

Dr. Jyoti Keshavnagar University
Scheme of Examination
HRM-125001 (Performance)

UNIT-IV

Reward Systems and Legal Issues: Traditional and Pay for Performance plans; Impact of leadership on organizational performance, Managing team performance, ethics in performance Management; Performance management practices in Indian organizations.

Suggested Readings:

1. Aguinis, H., *Performance Management*, Prentice Hall
2. Bagchi, S. N., *Performance Management*, Cengage Learning
3. Bhattacharyya, D, *Performance Management System & Strategies*, Pearson Education
4. Bacal, R., *Performance Management*, McGrawHill
5. Dessler, G., *Human Resource Management*, Pearson Education
6. Armstrong, M., *Performance Management – Key strategies and Practical Guidelines*, Kogan Page

Important Instructions for the Course Coordinator and the Examiner:

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- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar
Guru Jambheshwar University
Science & Technology
Hisar-125001 (Haryana)

HRM-404 ORGANISATIONAL CHANGE AND INTERVENTION STRATEGIES

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this paper is to make the students learn about the organizational change and prepare them as change facilitators using the knowledge and techniques of behavioral science.*

Course Outcomes:

- CO1:** Students will be able to recall different concepts of organisation change and intervention strategies.
- CO2:** Students will be able to explain the process of organisation changes.
- CO3:** Students will be able to demonstrate the various intervention strategies.
- CO4:** Students will be able to appraise the process of organisation changes.
- CO5:** Students will be able to evaluate the role of change agents.
- CO6:** Students will be able to develop their own consultancy model for corporate sector.

Course Contents:

UNIT-I

Organizational Change: The domain of change, concept, Change Agents, Strategic management of change; Managerial approaches for implementing change; Models of Organizational Change, Kurt Lewin's Models of Change, Huse's 7 stages model of change

UNIT-II

Change Management: Understanding the Change Process, Facilitating Change, Dealing with Individual and Group Resistances, Intervention Strategies and Develop Learning Organization. Organizational Diagnosis- Meaning & Importance, Weisbord's model of Organizational Diagnosis and Methods of obtaining diagnostic information

UNIT-III

Organizational Development: An overview, Steps in OD process, General OD Competencies, OD Skills, Values, Assumption and Beliefs in OD; Designing OD Interventions- Interpersonal, Team, Intergroup, Structural and Comprehensive Interventions; Evaluation of Organizational Development Interventions

Registrar

**Dr. Jankeshwar University of
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HISAH-125001 (14/12/2020)**

UNIT-IV

Organizational Culture & Change; Corporate Culture, Types of Culture, Importance, Nature, Formal & Informal Components of Organizational Culture, Designing for Cultural Change; Organizational Culture & Leadership; Emerging Trends in Organizational Culture; Ethics of OD Professionals and Future of OD.

Suggested Readings:

1. French, W. H. and Bell, *Organization Development*, Prentice Hall of India.
2. French, W. H., *Organization Development Theory, Practice and Research*, Prentice Hall of India.
3. Singh, K., *Organization Change and Development*, Excel Books
4. Huse, F. E. and Cummings, T. G., *Organization Development and Change*, West.
5. De Nitish, *Alternative Designs of Human Organizations*, Sage.
6. Harvey, D.F. and Brown, D.R., *An Experiential Approach to Organization Development*, Prentice Hall Inc.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar
Guru Jaganeshwar University of
Science & Technology
HIMAN-125001 (Haryana)

HRM-405

COUNSELING SKILLS FOR MANAGERS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *To develop basic skills among students to independently handle a wide range of employee counseling and performance counseling.*

Course Outcomes:

- CO1: Students will be able to recall different terms used in counselling.
 CO2: Students will be able to explain conceptual framework of counselling.
 CO3: Students will be able to demonstrate the process of counselling.
 CO4: Students will be able to differentiate between theories of counselling.
 CO5: Students will be able to evaluate practical solutions to human behaviour related problems in the organization.
 CO6: Students will be able to develop their own model of counselling.

Course Contents:**UNIT-I**

Introduction to Counseling- Emergence, Growth, Definition, Need, Goal, Role and Characteristics of Counselor and Counselee, Difference between Counseling and Psychotherapy, and General Principles of Counseling

UNIT-II

Approaches to Counseling- Psycho-analytical (Sigmund Freud Theory), Therapeutic (Alfred Adler Theory), Behaviouristic (B. F. Skinner Theory), Cognitive (Albert Ellis Model) and Humanistic Approaches (Carl Rogers Approach);

UNIT-III

Counseling Process- 5-D Model, the Phases of Counseling Process, Counseling Environment and Procedure, and the Core Conditions of Counseling; Counselor's Attitude and Skills of Counseling- Verbal and Non-verbal Communication Modalities, Listening Skills, Listening Barriers and Strategies to Overcome Listening Barriers;

UNIT-IV

Organizational Applications of Counseling Skills- Identifying Problems and Coping Strategies with regard to Occupational Stress and Performance Management; Special Problems in Counseling- Selection of Counseling Strategies and Interventions, Changing Behavior through Counseling; Ethical and Legal Aspects of Counseling, and Current trends in Counseling

Suggested Readings:

1. Corner, L.S., and Hackney, H., *The Professional Counselor's Process Guide Helping*, Englewood Cliffs, Prentice Hall Inc.
2. Moursund, J., *The Process of Counseling and Therapy*, Englewood Cliffs, Prentice Hall Inc.
3. Munro, C A, *Counseling: A Skills Approach*, Methuen.
4. Reddy, Michael, *Counseling at Work*, British Psychological Society and Methuen.
5. Rao, S. Narayana, *Counselling and Guidance*, Tata McGraw Hill.
6. Gladding, S. T, *Counseling- A Comprehensive Profession*, Pearson.
7. Singh, Kavita, *Counselling Skills for Managers*, Prentice Hall of India.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

Registrar
Chitwan University
Science & Technology
Kathmandu-123001 (Nepal)

HRM-406

GLOBAL HUMAN RESOURCE MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to develop a diagnostic and conceptual understanding of the cultural and related behavioral variables in the Human Resource Management of global organizations,*

Course Outcomes:

- CO1: Students will be able to describe the concept of global human resource management.
- CO2: Students will be able to discuss the human and cultural variables in global organisations.
- CO3: Students will be able to interpret the various dimensions of Hofstede's study.
- CO4: Students will be able to compare various studies related to culture.
- CO5: Students will be able to evaluate various HRM practices prevailing in various global organisations.
- CO6: Students will be able to formulate negotiation process in cross cultural context.

Course Contents:**UNIT-I**

Human and Cultural Variables in Global Organizations: Culture and values, Cross Cultural Differences and Managerial Implications

UNIT-II

Cultures in Organizations and Hofstede's Study – Cultural dimensions and their HR and managerial implications

UNIT-III

Evolution of Global Organizations: Cross Cultural Leadership, Motivation and Decision Making, Cross Cultural Communication and Negotiation.

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UNIT-IV

Human Resource Management in Global Organizations: Selection, Source criteria for International Assignment, Compensation and Appraisal System.

Suggested Readings:

1. Adler, N.J., *International Dimensions of Organizational Behaviour*, Kent Publications.
2. Bartlett, C. and Ghoshal, S., *Transnational Management: Text, Cases and Readings in Cross Border Management*, Irwin.
3. Dowling, P.J., *International Dimensions of Human Resource Management*, Wadsworth.
4. Hofstede, G., *Cultures Consequence: International Differences in Work Related Values*, Sage.
5. Marcis, D. & Puffer, S.M., *Management International: Cases, Exercises and Readings*, West Publishing.
6. Mead, R., *International Management: Cross Cultural Dimensions*, Blackwell.
7. Ronen, S., *Comparative and Multinational Management*, John Wiley.

Important Instructions for the Course Coordinator and the Examiner:

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HRM-407

LABOUR WELFARE AND SOCIAL SECURITY

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to acquaint the students with the significance and processes of Labour Welfare activities and Social Security measure adopted by the organizations.*

Course Outcomes:

- CO1: Students will be able to recall different terms used in labour welfare and social security.
- CO2: Students will be able to describe the labour inspection system in factories.
- CO3: Students will be able to illustrate various social welfare facilities.
- CO4: Students will be able to compare various welfare facilities provided by employers in factories.
- CO5: Students will be able to evaluate the various social security measures provided to employees in factories.
- CO6: Students will be able to develop labour welfare and social security measures for the employees of middle scale organisations.

Course Contents:

UNIT-I

Labour Welfare Activities: Concept and Significance, Origin of Labour Welfare activities, Theories of Labour Welfare; Statutory Welfare Provision in Factory Act; Labour Welfare Funds; Labour Inspection System.

UNIT-II

Critical Estimate of Welfare Work by Employers, Local Bodies and Trade Unions; Welfare of Unorganized Labour; ILO and Labour Welfare

UNIT-III

Some Special Welfare Activities: Grain Shop Facilities, Educational Facilities, Medical and Reorientation, Workers education scheme; Industrial safety; Industrial housing; Industrial health; Industrial hygiene.

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11/20

UNIT-IV

Social Security: Concept and Importance; Employees' Compensation in India; Sickness Insurance in India; Unemployment Insurance in India; Old Age and Invalidity Security; Social Security Measures in the selected Countries (England, Japan & U.S.A.).

Suggested Readings:

1. Dale Yoder, *Personal Management and Industrial Relations*, Tata McGraw Hill.
2. Monappa, Arun, *Industrial Relations*, Tata McGraw Hill.
3. Sharma, A.M., *Aspects of Labour Welfare and Social Security*, Himalaya Publishing House
4. Sivarethinamohan, R., *Industrial Relation and Labour Welfare*, PHI Learning Private Ltd.

Important Instructions for the Course Coordinator and the Examiner:

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FINANCE AREA

THIRD SEMESTER

1183

FM-301

RISK MANAGEMENT AND INSURANCE

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to impart knowledge to students regarding the techniques of measurement and control of risk.*

Course Outcomes:

- CO1: Students will be able to define the concept of risk and insurance in India
- CO2: Students will be able to compare different types of risk faced by Indian companies
- CO3: Students will be able to apply techniques of risk management and control
- CO4: Students will be able to differentiate various types of life insurance policies in India
- CO5: Students will be able to evaluate different policies based on cost and benefits
- CO6: Students will be able to develop different techniques to control risk

Course Contents:

UNIT-I

Introduction to risk management: The Concept of Risk; Risk v/s Uncertainty, Different types of risk: Credit Risk, asset liability gap risk, interest rate risk, market risk, currency risk, due- diligence risk, systematic and unsystematic risk; Risk Management: meaning, process and policies;

UNIT-II

Measurement and Control of Risk: Identifying Measures and Controlling Risk – Statistical Method, Fixation of limits: open position/deal size/individual dealers/ stop loss limits. Margins: value at risk margin, extreme loss margin, mark to market margin

UNIT-III

Introduction to insurance; the evolution and growth of Life Insurance nature and scope of insurance, various types of insurance; Principles of insurance; leading Insurance companies in India

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UNIT-IV


Types of Life Insurance Policies: Term Life Insurance, Whole Life insurance, Endowment Life Insurance, Unit Linked Policies with or without Profit Policies; Customer Evaluation; Policy Evaluation; Cost and Benefit: Group and Pension Insurance Policies; non-life insurance policies: an overview. Financial derivatives: A tool of non-insurable risk management

Suggested Readings:

1. Emmett J. Vaughan, Risk Management, John Wiley & Sons, Inc.
2. Rejda, G.E. & McNamara, J.M., Principle of Risk Management & Insurance, Parson
3. A. Suryanarayana, Risk Management Models: A Primer, ICFAI Reader.
4. Marshall John F. & Bansal, V. K., Financial Engineering, PHI Learning.
5. Watsham Terry J., Futures and Options in Risk Management, Thomson Learning
6. Karam Pal, Bodla & Garg, M.C., Insurance Management, Deep & Deep Publications, New Delhi

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FM-302

SECURITY ANALYSIS

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to impart knowledge to students regarding the theory and practice of Security Analysis.*

Course Outcomes:

- CO1:** Students will be able to describe the environment and working of capital markets.
- CO2:** Students will be able to discuss and differentiate different financial assets and their holding motives
- CO3:** Students will be able to demonstrate the processes of calculating risk and return of financial assets
- CO4:** Students will be able to appraise the processes of doing fundamental and technical analysis
- CO5:** Students will be able to judge the trends in the stock markets.
- CO6:** Students will be able to develop a reasoned argument for security selection and investment choices

Course Contents:

UNIT-I

The Investment Environment - Meaning and objective of investment, investment vs. gambling and speculation, investment alternatives, investment process, concept of return and risk.

UNIT-II

Security Analysis – Fundamental analysis: economic analysis, industry analysis and company analysis. Technical analysis: assumptions Dow theory, chart patterns, moving averages and market indicators. Efficient market theory: weak form hypothesis, semi-strong form hypothesis and strong form hypothesis.

UNIT-III

Fixed Income Securities - Bond fundamentals: bond characteristics, pricing and yields Valuation of fixed income and variable income securities

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UNIT-IV


Indian Security Market - New issue market, secondary market: SEBI, NSE, BSE and market indices. Recent trends in Indian and international stock markets, exposure to leading business web portals like www.moneycontrol.com, www.bloomberg.com etc.

Suggested Readings:

1. Reilly, Frank K. And Brown, Keith C., *Investment Analysis and Portfolio Management*, South-Western Cengage Learning India Pvt. Ltd.
2. Bodie, Z., Kane, A. and Marcus, A., *Investments*, McGraw-Hill.
3. Fischer, Donald E. and Jordan, Ronald J., *Security Analysis and Portfolio Management*, Prentice Hall of India.
4. Sharpe, William F. et al, *Investment*. New Delhi, Prentice Hall of India.
5. Fuller, Russell J. and Farrell, James L., *Modern Investment and Security Analysis*, New York, McGraw Hill.
6. Alexander, Gordon J. and Bailey, Jeffery V., *Investment Analysis and Portfolio Management*, Dryden Press, Thomson Learning
7. Machiraju, H. R., *Indian Financial System*, Vikas Publishing House.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
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FM-303

PROJECT MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The basic purpose of this course is to understand the framework for evaluating capital expenditure proposals, their planning, finance, appraisal and management in the review of the projects undertaken.*

Course Outcomes:

- CO1:** Students will be able to explain the importance, scope and functions of Project Management.
- CO2:** Students will be able to illustrate the Life Cycle of any given project.
- CO3:** Students will be able to sketch estimation of Guidelines for Time, Costs and Resources required for Project Management by applying different methods.
- CO4:** Students will be able to examine the Scheduling Resources and Reducing Project Duration.
- CO5:** Students will be able to evaluate Role and Responsibilities of the project Manager, Planning, Organizing, Controlling, Skills of the Project Manager.
- CO6:** Students will be able to formulate strategies for risk reduction.

Course Contents:

UNIT-I

Project Analysis: Meaning, Overview, Capital Budgeting and Strategic Issues, Generation and Screening of Project Ideas.

UNIT-II

Feasibility Reports: Market and Demand Analysis; Technical Analysis; Financial Analysis; Analysis of Project Risk; Risk specific to individual firm and Market Risk; Decision under risk and Risk Analysis in Practice.

UNIT-III

Social Cost and Benefit Analysis: UNIDO approach and L-M Approach; Multiple Projects and Constraints; Financing of Projects, Sources of Risk capital, Recent development in India.

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UNIT-IV

Project Management: Project Planning and Control, Human aspects of Project Management; Project Review and Administrative Aspects; Problem of Time and Cost Overrun.

Suggested Readings:

1. Chandra, Prasanna, Projects: Preparation, Appraisal, Budgeting and Implementation, Tata McGraw Hill.
2. Dhankar, Raj S., Financial Management of Public Sector Undertakings, Westville.
3. Little I.M.D. and J.A. Mirrlees, Project Appraisal and Planning for Developing Countries, Hienemann Educational Book.
4. OCED Manual of Industrial Project Analysis in Developing Countries- Methodology and Case Studies, OCED, Paris.
5. Planning Commission, Guidelines for Preparation of Feasibility reports of Industrial Projects, Controller of Publication.
6. UNIDO Guide to Practical Project Appraisal, United Nations.

Important Instructions for the Course Coordinator and the Examiner:

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FM -304 MANAGEMENT OF BANKS AND FINANCIAL INSTITUTIONS**Time Allowed: 3Hours****M.M:70**

Course Objective: *The objective of this course is to analyze the major concepts, theories and principles of banking and financial institutions in logical and critical manner.*

Course Outcomes:

- CO1:** Students will be able to tell about the Indian banking structure and banking reforms in India.
- CO2:** Students will be able to explain the functions of banks and financial institutions.
- CO3:** Students will be able to interpret the role of RBI, NABARD, IFCL, SIDBI, NHB for economic development.
- CO4:** Students will be able to examine the concept of non-performing assets in Indian banking.
- CO5:** Students will be able to evaluate the risk management in bank.
- CO6:** Students will be able to formulate loan policy.

Course Contents:**UNIT -1**

Indian Financial System: Introduction, Evolution and growth of banking system in India, Bank Market structure in India, Banking sector reforms (The Narsimham Committee and The Raghu Ram Rajan Committee), Recent Innovations and development in Indian Banking.

UNIT -II

Management of Commercial Banks in India: Functions of Bank, Sources of Bank Funds, Credit Management-Cardinal principles of sound bank lending, Formulating loan policy, Factors influencing loan policy; Investment Management-Nature and significance of investment management in commercial banks, Fundamental principles of security investment by commercial bank.

UNIT- III

Capital Adequacy in Indian Banks: Functions of capital funds in commercial banks, Capital adequacy –Basel III norms on capital adequacy in Indian commercial banks; Concept of ALM : Objectives, Functions, Process, Measurement and Management of Risks, Concept of NPAs.

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UNIT – IV


Management of Financial Institutions: Financial Institutions, their role in economic development, challenges and opportunities; NABARD, IFCI, SIDBI, NHB– Introduction and their operational policies; Role of RBI; Insurance Industry in India, Mutual Funds, Micro Finance Institutions (MFIs); Current issues and future challenges in Management of Banks and financial Institutions.

Suggested Readings:

1. Srivastava, R.M. & Nigam, D., *Management of Indian Financial Institutions*, Himalaya Publishing House.
2. Khan, M. Y. *Indian Financial System*, Tata McGraw Hill.
3. Suresh, P. & Paul, J., *Management of Banking and Financial Services*, Pearson
4. Singh, S.P.N., *Management of Banking and Financial Institutions*, Centrum Press
5. *Principles & Practices of Banking by Indian Institute of Banking and Finance*, Macmillan Publications

Important Instructions for the Course Coordinator and the Examiner:

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FM-305

FOREIGN EXCHANGE MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *To acquaint the students with the mechanism of the foreign exchange markets, measurement of the foreign exchange exposure, and hedging against exposure risk. Upon successful completion of this paper, Students should expect to learn the nature and purposes of foreign exchange management under the new financial order evolving higher degree of vulnerability in a highly borderless financial world.*

Course Outcomes:

- CO1:** Students will be able to state appropriate formats and technologies to financial communication.
- CO2:** Students will be able to identify market conventions on exchange rate quotation and correctly calculate those quotations.
- CO3:** Students will be able to apply information within the global financial environment of foreign exchange to solve problems and make informed decisions.
- CO4:** Students will be able to appraise forward exchange rates given spot exchanges rates and rationale behind it.
- CO5:** Students will be able to evaluate the problems of dealing in foreign currency and the advantages and disadvantages of overseas funding.
- CO6:** Students will be able to develop an integrative understanding of the foreign exchange market and the relationships between interest rates, spot and forward rates and expected inflation rates.

Course Contents:**UNIT-I**

Foreign Exchange Market: Function and Structure of the FOREX markets, Foreign exchange market participants, Types of transactions and Settlements Dates, Exchange rate quotations, Nominal, Real and Effective exchange rates, and Determination of Exchange rates in Spot markets. Exchange rates determinations in Forward markets. Exchange rate behavior-Cross Rates Arbitrage profit in foreign exchange markets, Swift Mechanism.

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UNIT-II

International Parity Relationships & Forecasting Foreign Exchange rate:- Measuring exchange rate movements-Exchange rate equilibrium – Factors effecting foreign exchange rate- Forecasting foreign exchange rates .Interest Rate Parity, Purchasing Power Parity & International Fisher effects.

UNIT-III

Foreign Exchange exposure:-Management of Transaction exposure (Case Study: Airbus Dollar Exposure); Management of Translation exposure- Management of Economic exposure (Case study: Exporter's/Importer's Position: Hedge or Hedge Not).

UNIT-IV

Foreign exchange risk Management: Hedging against foreign exchange exposure – Forward Market- Futures Market- Options Market- Currency Swaps-Interest Rate Swap. Cross currency Swaps-Hedging through currency of invoicing- Hedging through mixed currency invoicing.

Suggested Readings:

1. Eun and Resnick, *International Financial Management*, Tata McGraw Hill.
2. Eiteman, Moffett and Stonehill, *Multinational Business Finance* –, 12/e, Pearson.
3. Jeff Madura, *International Corporate Finance*, Cengage Learning.
4. Alan C. Shapiro, *Multinational Financial Management*, 8/e, Wiley India
5. Apte, P. G *International Financial Management*, 6/e, TMH.
6. Maurice Levi *International Finance* –, 5/e, Routledge.
7. Paul Einzip, *A Textbook on Foreign Exchange*
8. Paul Roth, *Mastering Foreign Exchange and Money Markets*, Pitman.

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FM-306

PUBLIC FINANCE**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to analyze the major concepts, theories of public finance in logical and critical manner.*

Course Outcomes:

- CO1:** Students will be able to relate public expenditure and revenue concepts.
- CO2:** Students will be able to identify the issues involved in public debt management in India
- CO3:** Students will be able to demonstrate integrative understanding of auditing system in India
- CO4:** Students will be able to compare the possible burden, benefits and distribution of various types of taxes and their impact on general welfare
- CO5:** Students will be able to appraise and critically evaluate the issues in Government finances
- CO6:** Students will be able to develop analytical skills and judgement in major areas of public finance reforms

Course Contents:**UNIT-I**

Nature and Scope of Public Finance; Principle of maximum social advantage Public revenue-General considerations: Division of tax burden and incidence of taxes, Classification and choice of taxes and effect of taxation. Indian taxation system and its key issues

UNIT-II

Public Debt and some issues in debt management; Public expenditure- General considerations and effect of public expenditure; Public budget- budget classification, Performance and Programme budgeting system (PPBS) and Zero base budgeting; Balance budget and fiscal policy. Comments on recent central Government budget

UNIT-III

Introduction to Indian Public Financial System – Historical background, Financial Federalism under Constitution; Indian Federal finance- Recommendations of latest finance commission of India; Public debt in India-Central and states Government debt.

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UNIT-IV

Government of India Finances: expenditure trends expenditure policy, control of public expenditure in India, Suggestions for reforming the budget, trends in receipts. Railway finances, public sector in India and its Financial Autonomy and Accountability of Public sector, states finances and local finances. Investment policy of public sector in India: Financial, economic and social appraisal. Financial control; Legislative and Executive Accounting and Auditing System in India, Role of Comptroller and Auditor General (CAG), Contemporary Issues in Government Finances.

Suggested Readings:

1. Musgrave, R.A., and P. B. Musgrave, *Public Finance in Theory and Practice*, Tata McGraw Hill.
2. Harvey S. Rosen, Ted Gayer, *Public Finance*, McGraw Hill
3. Tayagi, B.P., *Public Finance*, S. Chand & Co.
4. Lekhi, R.K., *Public Finance*, Kalyani Publishers.
5. Mithani, D.M., *Public Finance and International Trade*, Himalaya Publications.

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FM-307

BUSINESS TAXATION**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of the course is to acquaint the participant with the implications of tax structure and corporate tax planning in operational as well as strategic terms.*

Course Outcomes:

- CO1:** Students will be able to outline the meaning and scope of tax policy and basic concepts of tax in India
- CO2:** Students will be able to explain constitutional provisions pertaining to taxes in India
- CO3:** Students will be able to illustrate the computation of tax liability
- CO4:** Students will be able to appraise the rationale, benefits and costs of various tax incentives offered by government
- CO5:** Students will be able to evaluate tax implications while taking business decisions
- CO6:** Students will be able to formulate tax planning for individuals or business houses

Course Contents:**UNIT-I**

Basic Concepts of Income Tax; Computation of Income under Different Heads of Income, Clubbing of income, Set off and Carry forward of Losses, Deductions and Exemptions.

UNIT-II

Meaning and Scope of Tax Planning, Difference between Tax planning Tax Evasion and Tax Avoidance, Residential status and Tax incidence of a Company; Computation of Corporate Tax Liability.

UNIT-III

Tax Planning with reference to Location of Undertaking, Tax Planning regarding Dividends Policy, Tax Planning relating to specific managerial decisions, Tax planning for employees

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UNIT-IV


Major defects in the structure of indirect taxes prior to GST: rationale for GST; features of GST law in India, structure of GST (SGST, CGST, UTGST and IGST); rates of GST, models of GST, GST Council

Suggested Reading:

1. Singhanian, V., K. & Singhanian, Monica, *Students' Guide to Income Tax*, Taxmann
2. Singhanian, V., K. & Singhanian, Kapil, *Direct Taxes Law and practice*, Taxmann
3. Singhanian, V., K. & Singhanian, Monica, *Corporate tax Planning and Business Tax Procedures*, Taxmann
4. Narwal, K. P., & Anushuya, *GST in India*, DBH Publishers and Distributors
5. Ahuja, G. & Gupta, R., *Simplified Approach to Corporate Tax Planning and Management*, Bharat Law House private limited
6. Srinivas, E. A., *Handbook of Corporate Tax Planning*, Tata McGraw Hill.
7. Iyengar, A. & C. Sampat, *Law of Income Tax*, Bharat House.

Important Instructions for the Course Coordinator and the Examiner:

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FM-308

FINANCIAL ECONOMETRICS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *This course aims at enabling the students to understand and analyse financial econometrics and developing their skills for the solution with the help of innovative financial econometrics.*

Course Outcomes:

- CO1:** Students will be able to outline the meaning and scope of financial econometrics.
- CO2:** Students will be able to explain various assumptions, concepts and methodologies underlying Time-series modelling.
- CO3:** Students will be able to solve issues in regression modelling.
- CO4:** Students will be able to appraise suitability statistical techniques to business data.
- CO5:** Students will be able to evaluate model outcomes.
- CO6:** Students will be able to assemble the knowledge of financial econometric tools for forecasting financial data.

Course Contents:**UNIT-I**

Nature, scope and methodology of Financial Econometrics Simple Linear Regression Model: Assumptions, Procedures and properties of OLS estimator, Co-efficient of determination, Tests of significance, Maximum Likelihood Method; Multiple Linear Regression Analysis: Method of least squares, Properties of OLS estimator, Test of significance of regression co-efficient, R^2 and adjusted R

UNIT-II

Issues with Classical Regression Model: Multi co linearity, Autocorrelation and Heteroscedasticity; Functional forms; Dummy variables-Nature and uses; Parameter stability tests.

UNIT-III

Univariate Smoothing Methods: Moving average, weighted moving average, Exponential smoothing, Seasonal indexes, Trend-seasonal and Holt-Winters smoothing.

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UNIT-IV


Stationary Time Series Models: Stochastic process, Stationary, Modeling AR, MA, ARMA processes, Deterministic and stochastic trends, unit roots, testing unit roots – Dickey & Fuller, Phillips and Perron tests.

Suggested Readings:

1. Gujarati, D. N., *Basic Econometrics*. McGraw-Hill
2. Enders Walter., *Applied Econometrics Time Series*. Wiley.
3. Koutsoyiannis, A, *Theory of Econometrics*, Harper & Row.
4. Makridakis S & Wheelwright, *Forecasting Methods & Application*. Willey.
5. Brooks, *Introductory Econometrics for Finance*. Cambridge Press.
6. Johnston, J., *Econometric Methods*. McGraw Hill.
7. Patterson K, *An Introduction to Applied Econometrics*. Palgrave.

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FOURTH SEMESTER

FM-401

PORTFOLIO MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to impart knowledge to students regarding the theory and practice of portfolio management.*

Course Outcomes:

- CO1:** Students will be able to define the concepts and terminologies of portfolio management.
- CO2:** Students will be able to summarise the theories underlying portfolio management.
- CO3:** Students will be able to apply the concepts of portfolio management and solve relevant numerical problems.
- CO4:** Students will be able to examine and evaluate portfolio performance.
- CO5:** Students will be able to apprise and judge trends in international financial markets.
- CO6:** Students will be able to construct investment portfolio and defend their choices.

Course Contents:**UNIT-I**

Introduction to Portfolio Management; Meaning, need, and objective of portfolio management, the process of portfolio management, determination of risk & return of a portfolio, risk analysis tools

UNIT-II

Theories of portfolio selection and management- Markowitz portfolio theory: optimal portfolio, meaning and construction of efficient frontier, investors' utility; CAPM: capital asset pricing model, risk-free and risky lending and borrowing, market portfolio; capital market theory: CML, SML and Sharpe Single Index Model; Arbitrage Pricing Theory (APT).

UNIT-III

Bond portfolio management strategies –bond characteristics, fundamentals of bond valuation, bond & equity portfolio management strategies: passive portfolio strategies & active portfolio strategies.

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UNIT-IV

Portfolio evaluation and revision – portfolio performance evaluation, risk adjusted performance measures; meaning, need and constraints of portfolio revision; formula plans: constant-dollar-value plan, constant ratio plan, variable ratio plan, process and intricacies of trading system in Indian stock market.

Suggested Readings:

1. Reilly, Frank K. And Brown, Keith C., *Investment Analysis and Portfolio Management*, South-Western Cengage Learning India Pvt. Ltd.
2. Fischer, Donald E. and Jordan, Ronald J., *Security Analysis and Portfolio Management*, Prentice Hall of India.
3. Sharpe, William F. et al, *Investment*. New Delhi, Prentice Hall of India.
4. Fuller, Russell J. and Farrell, James L., *Modern Investment and Security Analysis*, New York, McGraw Hill.
5. Alexander, Gordon J. and Bailey, Jeffery V., *Investment Analysis and Portfolio Management*, Dryden Press, Thomson Learning
6. Machiraju, H. R., *Indian Financial System*, Vikas Publishing House.

Important Instructions for the Course Coordinator and the Examiner:

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FM-402

FINANCIAL MARKETS AND SERVICES

Time Allowed: 3 Hours

M.M:70

Course Objective: *The main objective of this course is to help students to learn the various concepts of financial markets and services and their role in the overall financial system.*

Course Outcomes:

CO1: Students will be able to describe financial market operations.

CO2: Students will be able to explain the various concepts related to financial markets and services.

CO3: Students will be able to solve various investment related issues facing the investors.

CO4: Students will be able to examine how the overall financial system works and various aspects associated with it

CO5: Students will be able to evaluate the best sources feasible for fulfilling their financial requirements related to the business

CO6: Students will be able to formulate different financial plans for the organisations with the help of different services provided by the financial markets

Course Contents:**UNIT-I**

Financial markets- Structure and Participants; Capital market; Money market; Primary and Secondary Market Operations; Listing of securities; functions of stock exchanges; Role of SEBI; Introduction to derivative and commodity markets.

UNIT-II

Financial Services: Meaning, Nature and Types; Factoring: Meaning, Characteristics and Types of Factoring arrangements, Factoring in India, Factoring vs. Forfeiting; Credit Rating: Meaning and Types, Benefits of Credit rating to investors and companies; Objectives and Functions of Credit Rating Agencies.

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UNIT-III

Credit Cards: Concept and Significance; Types of credit Cards, Credit Card business in India. Book Building: Concept and Mechanism of Book Building; Significance and Benefits of Book Building; Bought Out Deals: Meaning and Nature; Mechanisms of Bought out Deals.

UNIT-IV

Securitisation: Concept, Mode, Mechanism and Beneficiaries of Securitisation, Securitisation in India; Venture Capital: Meaning and Modes of Financing; Role and Functions of Merchant Bankers. Leasing: Concept, Classification, Accounting, Legal and Tax Aspects of Leasing

Suggested Readings:

1. Clifford, G., *Financial Markets, Institutions and Financial Services*, PHI.
2. Khan, M. Y., *Management of Financial Services*, McGraw-Hill.
3. Gordan, E and K. Natrajan, *Emerging Scenario of Financial Services*. Himalaya Publishing House
4. Meidan, Arthur Brennet, M., *Option Pricing: Theory & Applications*, Lexington Books.
5. Kim, Suk and Kim, Seung, *Global Corporate Finance. Text and Cases*, Miami Florida, Kotb
6. Khan, M., Y., *Financial Institutions and Markets*, McGraw Hill
7. Bhole, L.M., *Financial Institutions and Markets*, McGraw Hill

Important Instructions for the Course Coordinator and the Examiner:

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FM-403

FUNDS MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The main objective of this course is to make students learn the various aspects of funds management.*

Course Outcomes:

- CO1:** Students will be able to tell different concepts of funds management
- CO2:** Students will be able to explain different types of schemes available in the market
- CO3:** Students will be able to choose the schemes according to their risk profile
- CO4:** Students will be able to compare risk and return of different schemes in which funds have been invested.
- CO5:** Students will be able to evaluate different mutual fund schemes keeping into consideration the risk level.
- CO6:** Students will be able to design different mutual fund schemes taking into consideration the requirements

Course Contents:**UNIT-I**

Concept and Role of Mutual Funds: Introduction, types of funds, key developments over the years and key constituents of a mutual fund. Legal and Regulatory Environment: Legal structure of mutual funds in India, Role of regulators in India, Investment restrictions for schemes and Investors' rights and obligations.

UNIT-II

Investment Philosophies and Styles: Diversification, growth investing, value investing, momentum style.

UNIT-III

Performance of Funds: Drivers of return and risk in a scheme. Measures of return and risk of a scheme Benchmarking and fund performance Measuring fund managers' performance Introduction to financial planning, financial planning approaches, Risk profiling and asset allocation

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UNIT-IV

Investment strategies of funds managers: Asset class and geographic diversification, active strategies, passive strategies, top down approach, bottom up approach, sector rotation style, momentum style, small capitalization style, comparing fund management styles.

Suggested Readings:

1. Mutual Fund Distributors Module, Workbook from NISM
2. Brentani, C. *Portfolio Management in Practice*, Elsevier
3. Kane and Marcus, *Investments by Bodie*, Tata McGraw Hill.
4. Blake, D., *Financial Market Analysis*, John Wiley & Sons.
5. Fabozzi, F. J., *Bond Markets Analysis & Strategies*, Pearson.
6. Freeman, A.J. and Wiles, R., *How Mutual Funds Work?* Prentice Hall India.

Important Instructions for the Course Coordinator and the Examiner:

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FM-404

INTERNATIONAL FINANCIAL MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *This course is designed to provide an understanding of international financial products, financial markets, and institutional structures necessary to be effective financial managers in modern corporations. Upon successful completion of this paper, Students should expect to learn the nature and purposes of financial management in the international context under the new financial order evolving higher degree of vulnerability in a highly borderless financial world.*

Course Outcomes:

- CO1:** Students will be able to define appropriate formats and technologies to financial communication.
- CO2:** Students will be able to explain international capital and foreign exchange market,
- CO3:** Students will be able to demonstrate an integrative understanding of the foreign exchange market and the relationships between interest rates, spot and forward rates and expected inflation rates
- CO4:** Students will be able to appraise investment opportunities in the international environment, identify market conventions on exchange rate quotation and correctly calculate those quotations
- CO5:** Students will be able to evaluate various hedging strategies.
- CO6:** Students will be able to develop strategies for futures and option contracts in hedging foreign exchange exposure.

Course Contents:**UNIT-I**

International financial Environment- Importance, rewards & risk of international finance Goals of MNCs; Globalization & Multinational firm: finance functions in MNCs, structure of international financial Market; Cost and availability of international financial flows; Corporate Governance around the World; International monetary system

UNIT-II

The markets for foreign exchange (case study: St. Bury Herbal products Ltd) Futures and options on foreign exchange Management of Transaction & Economic exposure (case Study: Airbus Dollar exposure); Management of translation exposure.

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UNIT-III

International Banking & Money market; forward rate Agreements (FRAs) International bond markets; International equity markets and Instruments: ADR, GDR, ECBs etc.

UNIT-IV

Interest rates and currency swaps, FDI and cross-border acquisitions; Contemporary issues in international financial management.

Suggested Readings:

1. Aliber, R.Z., Exchange Risk and *Corporate International Finance*, Macmillan.
2. Apte P G, *International Financial Management*.
3. *International Financial Management* - Eun & Resnick, Tata McGraw Hill.
4. Luca Cornelius, *Trading in the Global Currency Markets*, Prentice Hall.
5. Shapiro, A.C., *International Financial Management*.
6. Utton, W.H., *Trading in Currency Options*, New York Institute of Finance.
7. Eiteman, Moffett and Stonehill, *Multinational Business finance*.

Important Instructions for the Course Coordinator and the Examiner:

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FM-405

FINANCIAL RESTRUCTURING AND VALUATION

Time Allowed: 3 Hours

M.M:70

Course Objective: *The course aims at providing an in-depth understanding of all aspects affecting and arising out of Corporate & Financial Restructuring and Valuation, stressing upon and dealing exhaustively with key concepts, legislative aspects and procedures.*

Course Outcomes:

- CO1: Students will be able to define the concepts and terminologies of financial restructuring.
- CO2: Students will be able to summarise the theories underlying corporate restructuring and business valuation.
- CO3: Students will be able to interpret the regulatory environment governing financial restructuring and valuation.
- CO4: Students will be able to compare different valuation models.
- CO5: Students will be able to apprise and evaluate real-world cases in corporate restructuring and valuation.
- CO6: Students will be able to formulate a plan to successfully liquidate or reorganize a business.

Course Contents:

UNIT - I

Corporate Restructuring: Meaning, Need, Scope and Modes of Restructuring; Historical Background; Emerging Trends; Planning, Formulation and Execution of Various Corporate Restructuring Strategies - Mergers, Acquisitions, Takeovers, Disinvestments and Strategic Alliances, Demerger.

UNIT - II

Financial Restructuring: concept & need for Financial Restructuring, Reduction of Capital; Reorganization of Share Capital; Buy-Back of Shares – Concept and Necessity; Procedure for Buy-Back of Shares by Listed and Unlisted Companies. Legal, Economic, Taxation and Financial aspects of Mergers and Amalgamation

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UNIT – III

Valuation: Meaning, Objective & Scope of Valuation; Principles of Valuation; Preliminary Work relating to Valuation; Valuation Standards and Valuation Analysis; Valuation Techniques; Historical Earnings Valuation; Asset Based Valuation; Market Based Valuation.

UNIT – IV

Regulatory Aspects of Valuation: Legal & Regulatory aspects related to Valuation such as SEBI Regulations/ RBI Regulations; Income Tax Implications; Valuations for Different Strategies- Merger & Acquisition, Demerger, Slump Sale, Liquidation and Corporate Insolvency, Internal & External Restructuring, Valuation of Intangibles, Valuation of Securities

Suggested Readings:

1. Corporate Restructuring Valuation and Insolvency by The Institute of Company Secretaries of India
2. Ray, *Mergers and Acquisition Strategy, Valuation and Integration*, PHI
3. Ramaiya, A., *Guide to Companies Act*, LexisNexis Butterworths, Wadhwa, Nagpur
4. Sampath, K., R., *Mergers /Amalgamations, Takeovers, Joint Ventures, LLPs and Corporate Restructure*, Snow White Publications
5. *Handbook on Mergers Amalgamations and takeovers* by The Institute of Company Secretaries of India

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FM-406

FINANCIAL AND COMMODITY DERIVATIVES**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to give an in depth knowledge of the functioning of derivative securities market.*

Course Outcomes:

- CO1:** Students will be able to describe the concepts and terminologies of financial and commodity derivatives.
- CO2:** Students will be able to explain the models used for pricing/valuation of derivatives
- CO3:** Students will be able to interpret innovations in financial and commodity markets
- CO4:** Students will be able to appraise investment opportunities in derivative market.
- CO5:** Students will be able to evaluate derivative pricing and hedging practices.
- CO6:** Students will be able to formulate basic risk management and trading strategies using derivatives.

Course Contents:**UNIT-I**

Financial Derivatives –Meaning, types, uses and factors driving the growth of derivatives. Forward Contracts v/s Future Contracts. Types of Traders: Futures Markets and the use of Futures for Hedging.

UNIT-II

Future Payoffs: long futures and short futures. Pricing stock futures: with dividend and without dividend. Application of futures: Hedging, speculation and arbitrage. Currency Futures: Meaning, uses and contract details. Interest Rate Futures: Meaning, uses and contract details.

UNIT-III

Stock Options: meaning, types and uses. General factors affecting stock option price Black-Scholes Option Model and Binomial model. Option based investment strategies-bullish, bearish, straddle, strangle and butterfly, Swaps: meaning & uses, currency swap & interest rate swap

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UNIT-IV


Introduction to Commodity Derivatives: meaning, uses, Cereals, metals and energy products. History and Contemporary issues of Indian derivative market.

Suggested Readings:

1. Brennet, M., *Option Pricing: Theory & Applications*. Toronto, Lexington Books.
2. Cox, John C and Rubinstein, *Mark Options Markets*. Englewood Cliffs, Prentice Hall Inc.
3. Huang. Stanley S C and Randall, Maury R., *Investment Analysis and Management*, Allyn and Bacon.
4. Hull. John C. *Options, Futures and Other Derivative Securities*, PHI.
5. Sharpe. William F. et al., *Investment*, Prentice Hall of India.

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FM-407

FINANCIAL DECISIONS ANALYSIS

Time Allowed: 3 Hours

M.M:70

Course Objective: *The basic objective of this course is to impart an intensive knowledge about the use of quantitative techniques in specified financial decision-making areas.*

Course Outcomes:

CO1: Students will be able to define the terminologies related to financial decision analysis.

CO2: Students will be able to explain key elements of financial decision making.

CO3: Students will be able to apply techniques used in financial decision analysis.

CO4: Students will be able to appraise corporate restructuring eco-system.

CO5: Students will be able to evaluate financial decision problems using quantitative and qualitative techniques.

CO6: Students will be able to formulate policies for financial decision making.

Course Contents:

UNIT-I

Application of Linear Programming; Goal Programming; Regression analysis and Simulation Technique in Financial Decision Making Areas; Corporate Debt Capacity Management Decision; Business Failure and Reorganization

UNIT-II

Application of Multiple Discriminant analysis; Decision Tree Analysis; Capital Expenditure Decision Under Conditions of Risk and Uncertainty; Sequencing of Decisions; Replacement Decisions.

UNIT-III

Mergers and Acquisitions; Takeover code; Determination of the Exchange ratio; Legal and Procedural aspects of Merger Decision; Corporate restructuring, Mergers & Acquisitions: value creation through M&A; DCF approach; Merger negotiation: Sign of P/E Ratio and EPS Analysis.

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UNIT-IV


Estimation and Projection of Working Capital Decisions; Financing Decisions: Sources of short and intermediate term financing; long term financing decision; Lease-Buy Decisions; Dividend Valuation Model: Walter's Model, Gordon's Model, MM Hypothesis; Dividend and Uncertainty.

Suggested Readings:

1. Bierman, Harold, *Lease vs. Buy Decision*, Englewood Cliffs, Prentice Hall Inc.
2. Fogler, H. and Ganpathy, *Financial Econometrics*, Englewood Cliffs, Prentice Hall Inc.
3. Hampton, John. J., *Financial Decision Making*, Prentice Hall of India Pvt. Ltd.
4. Levy, H. and Sarnat, H., *Capital Investment and Financial Decision*, Englewood Cliffs, Prentice Hall Inc.
5. Van, Horne, James, C., *Financial Management and Policy*, Englewood Cliffs, Prentice hall of India.
6. Pandey, I.M., *Financial Management*, Vikas Publishing House.

Important Instructions for the Course Coordinator and the Examiner:

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FM-408

BEHAVIOURAL FINANCE**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The basic objective of this course is to acquaint the new field of behavioural finance and importance of behavioral traits in financial decision making.*

Course Outcomes:

- CO1:** Students will be able to describe the concepts related to behavioural finance.
- CO2:** Students will be able to summarize the theories of behavioural finance.
- CO3:** Students will be able to differentiate between standard financial theories and behavioural finance.
- CO4:** Students will be able to appraise the influence of behavioural biases on financial decision making.
- CO5:** Students will be able to judge investor behaviour.
- CO6:** Students will be able to formulate investment and financial policies with an understanding of behavioural finance.

Course Contents:**UNIT – I**

Introduction: Meaning, nature, scope and history of Behavioral Finance; Comparison between Behavioral Finance and Standard Finance; Are financial markets efficient?; Limits to arbitrage-Fundamental Risk, Noise Trader Risk, Implementation cost.

UNIT – II

Behavior and Decision Making: Cognitive Bias, Emotional Bias, Concept of bounded rationality. beliefs and heuristics-Preferences: Prospect Theory, Ambiguity aversion, Loss aversion, Framing, Non-consequentialism: Disjunction Effect, Self-deception, Neuro finance (introduction only); Mental Accounting, Self-control, Regret avoidance and Cognitive dissonance, Representativeness and Availability, Anchoring and Belief perseverance, Overconfidence, Optimism and wishful thinking, Overreaction and Conservatism, Self attribution, Recency bias.

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UNIT – III

Anomalies: Fundamental anomalies, Accounting Based Anomalies, Calendar Anomalies, Technical anomalies: Value v/s Growth, size, and equity premium myopia.

UNIT – IV

Market Bubbles: Identification and causes, investor behavior during bubbles, case study of prominent market bubbles/scams. Introduction to Behavioral Corporate Finance

Suggested Readings:

1. William Forbes, *Behavioural Finance*, John Wiley.
2. Mihe Elvin, *An Introduction to the psychology of Trading and Behavioural Finance*, John Wiley.
3. James Montier, *Behavioural Investing: A Practitioners Guide to Applying Behavioural Finance*, John Wiley.
4. Sulphey. M.M., *Behavioural Finance*, PHI.
5. James Montier, *Behavioural Investing: Insights into Irrational minds and markets*, John Wiley.
6. Paragh Parikh, *Value Investing and Behavioural Finance*, Tata McGraw-Hill.

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MARKETING AREA

THIRD SEMESTER

MM-301

CONSUMER BEHAVIOUR

Time Allowed: 3 Hours

M.M:70

Course Objective: *The basic objective of this course is to develop an understanding about the consumer decision making process and its applications in marketing function of firms.*

Course Outcomes:

- CO1: Students will be able to define various terms associated with the field of consumer behaviour.
- CO2: Students will be able to explain different components of consumer behaviour.
- CO3: Students will be able to interpret the impact of consumer behaviour while framing marketing strategies.
- CO4: Students will be able to distinguish the individual and group aspects of consumer behaviour for devising marketing strategy.
- CO5: Students will be able to select the most suitable consumer behaviour for understanding consumer psyche.
- CO6: Students will be able to design a comprehensive marketing strategy based on consumer behaviour.

Course Contents:

UNIT – I

Consumer Behaviour- Introduction to consumer behaviour; Its Roots in Various Disciplines, Interrelationship between Consumer Behaviour and Marketing Strategy, Consumer Research; Process, Research Methods & Tools, Types and its Relevance

UNIT – II

Consumer as an Individual -Consumer Needs and Motivation; Goals, Dynamics of Motivation, Measurement of Motives, Personality and Consumer Behaviour; Nature, Theories of Personality and Self Concept, Consumer Perception and Information Processing; Dynamics of Perception, Consumer Imagery, and Perceived Risk, Learning & Consumer Involvement; Meaning, Behavioural & Cognitive Learning Theories and application to marketing, Consumer Attitude; Meaning, Attitude Formation & Change, Relationship in Behaviour & Attitude Formation, and Structural Models.

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UNIT – III

Group Dynamics and Consumer Behaviour - Reference Groups; Meaning, Types, Affects, Relevance and Applications, The Family; Functions, Decision Making and Family Life Cycle, Social Class; Meaning, Types of Status, Lifestyle Profiles and Mobility in Social Classes, Measurements, Influence of Culture; Characteristics, Measurements & Core Values of Culture, Sub Cultural Aspects on Consumer' Mind Set; Meaning, Types & Understanding of Multiple Sub-cultural Membership Interaction & Influence.

UNIT – IV

Consumer Decision Making Process- Personal Influence and the Opinion Leadership; Meaning and Dynamics of Opinion Leadership Process, Measurement of Opinion Leadership, Diffusion of Innovations; Process of Diffusion & Adoption, Profile of Consumer Innovator, Consumer Decision Making; Meaning of Decision, Levels of Decision Making. Consumer Behaviour Models, Current trends and ethical issues in Consumer Behavioural Studies.

Suggested Readings:

1. Assael, H., *Consumer Behaviour and Marketing Action*, Asian Books Private Limited, New Delhi.
2. Engel, J. F., Kollat, D.T., Roger D. Blackwell, R.D. 'Consumer Behaviour', Holt McDougal.
3. Hawkins, D., Mothersbaugh D., *Consumer Behavior: Building Marketing Strategy*, McGraw-Hill Education.
4. Schiffman, L. and Kanuk, L., *Consumer Behavior*, Prentice Hall.
5. Schiffman, L., & Wisenblit, J., *Consumer Behaviour*, Prentice Hall PTR.
6. Loudon, *Consumer Behavior: Concepts and Applications*, Tata McGraw-Hill Education Private Limited, Noida, Uttar Pradesh, India.

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MM-302

MARKETING RESEARCH**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The purpose of this course is to enable students to learn the process, tools and techniques of marketing research.*

Course Outcomes:

- CO1:** Students will be able to tell the significance and process of marketing research.
CO2: Students will be able to identify skills to conduct professional marketing research.
CO3: Students will be able to use appropriate research approaches including sampling, data collection and questionnaire design for specific marketing situations.
CO4: Students will be able to appraise a marketing research proposal.
CO5: Students will be able to defend a marketing research proposal.
CO6: Students will be able to assemble the findings in the form of a report.

Course Contents:**UNIT-I**

Introduction to Marketing Research: Importance, Nature and Scope of Marketing Research, Types of Marketing Research; Introduction to Marketing Research Industry; Marketing Intelligence: Marketing Information Systems, Decision Support Systems

UNIT-II

Marketing Research Process: Problem Identification and Definition; Research Designs; Exploratory: Qualitative Research; Descriptive: Survey and Observation; Data Collection: Primary and Secondary Data; Questionnaire Design.

UNIT-III

Attitude Measurement and Scaling Techniques - Introduction to Measurement Scales, Sampling Plan: Universe, Sample Frame and Sampling Unit, Sampling Techniques, Sampling and Non-sampling errors, Sample size determination.

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UNIT-IV

Data Analysis: Univariate, Bivariate and Multivariate Data Analysis; Report Writing; Market Research Applications: Product Research, Advertising Research, Sales and Market Research; International Marketing Research.

Suggested Readings:

1. Malhotra N., K. & Dash S., *Marketing Research: An Applied Orientation*, Pearson.
2. Churchill, Lacobucci & Israel, *Marketing Research: A South Asian Perspective*, Cengage Learning
3. Donald S. Tull & Del I. Hawkins, *Marketing Research: Measurement and Method*, Prentice Hall.
4. Boyd. H.W. , Westfall, R.,& Starsh, S.F., *Marketing Research: Text and Cases*, Richard D. Irwin, Boston
5. Chisnall, P. M., *The Essence of Marketing Research*, Prentice Hall, New Delhi.
6. Churchill, Gilbert A., *Basic Marketing Research*, Dryden Press, Boston.
7. Beri, G.C., *Marketing Research*, Tata McGraw Hill, New Delhi.

Important Instructions for the Course Coordinator and the Examiner:

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MM-303 INTEGRATED MARKETING COMMUNICATION STRATEGY**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The aim of this paper is to acquaint the students with the concepts, techniques and developing skills regarding application of effective advertising programmes.*

Course Outcomes:

- CO1:** Students will be able to define various terms associated with the field of integrated marketing communication.
- CO2:** Students will be able to explain the components of integrated marketing communication.
- CO3:** Students will be able to interpret the impact of business environmental factors on the marketing communication strategy.
- CO4:** Students will be able to distinguish the utility of various promotional tools.
- CO5:** Students will be able to evaluate the effectiveness of marketing communication strategy.
- CO6:** Students will be able to develop a marketing communication strategy.

Course Contents:**UNIT-I**

The growth of advertising and promotion, the evolution of IMC and a contemporary perspective, Promotional Mix: a tool for IMC, Analysis of the communication process, Role of IMC in the marketing process, Developing Marketing Planning Programme, Role of Advertising and Promotion.

UNIT-II

Participants in the IMC process: The clients Role, Role of advertising agencies, Types of Ad agencies, Agency compensation, evaluating agencies; An Overview of Consumer Behavior: Consumer decision-making process, Environmental influences on consumer behavior, Alternate approaches to consumer behavior.

UNIT-III

Analyzing the communication process: A basic model of Communication, cognitive response approach, elaboration likelihood model; Source message and channel factors; Objectives and budgeting for IMC programmes: Establishing objectives and budgeting for promotional programmes; DAGMAR: An approach to setting objectives, problems in setting objectives, Establishing and allocating the promotional budget; Developing the IMC program: Creative Strategy: Planning & development, Implementation and evaluation.

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UNIT-IV

Media planning and Strategy: Developing the media plan, Establishing media objectives, Developing and implementing media strategies, Evaluation and follow-up; Evaluation of media: television & Radio, Evaluation of Print Media: Support Media, Direct Marketing, Direct Selling, The internet and interactive media, sales promotion, public relation, publicity and corporate advertising. Measure the effectiveness of the promotional programme. International advertising and promotion, regulation of advertising and promotion, evaluating the social, ethical and economic Aspects of advertising and promotion

Suggested Readings:

1. Blakeman, R. *Integrated Marketing Communication: Creative Strategy from Idea to Implementation*, Rowman & Littlefield
2. Dutta, K., *Integrated Marketing Communication*, Oxford Higher Education
3. Belch, G. E., Belch, M. A. and Purani, K., *Advertising and Promotion*, McGraw Hill Education.
4. Batra, R., Myers, J. G. and Aaker, A.D. *Advertising Management*, Pearson Education
5. Percy, L. and Elliot, R., *Strategic Advertising Management*, Oxford publishing
6. Sissors, J.Z. and Baron, R.B. *Advertising Media Planning*, McGraw Hill.
7. Jethwaney, J. and Jain, S., *Advertising Management*, Oxford publishing

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MM-304

SALES AND DISTRIBUTION MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *To provide an understanding of the concepts, attitudes, techniques and approaches required for effective decision making in the areas of Sales and Distribution Management.*

Course Outcomes:

- CO1: Students will be able to define the concepts of sales management and distribution.
- CO2: Students will be able to explain the role, functions, and methods of selling and distribution process.
- CO3: Students will be able to apply the concepts to solve practical sales and distribution problems.
- CO4: Students will be able to compare different methods used for sales and distribution related decisions.
- CO5: Students will be able to appraise their sales management skills.
- CO6: Students will be able to develop the strategies that help in taking strategic decisions.

Course Contents:

UNIT-I

Sales Management: Role of Sales Management in Marketing, Nature and Responsibilities of Sales Management, Modern Roles and Required Skills for Sales Managers. Theories of Selling. Sales Planning: Importance, approaches and process of sales planning; Sales forecasting; Sales budgeting. Sales Organization: Purpose, principles and process of setting up a sales organization; Sales organizational structures; Field sales organization; Determining size of sales force.

UNIT-II

Territory Management: Need, procedure for setting up sales territories; Time management; Routing. Sales Quotas: Purpose, types of quotas, administration of sales quotas. Managing the Sales-force: Recruitment, selection, training, compensation, motivating and leading the sales-force; Sales meetings and contests

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UNIT-III

Control Process: Analysis of sales, costs and profitability; Management of sales expenses; Evaluating sales force performance; Ethical issues in sales management.

UNIT-IV

Distribution Channels: Role of Distribution Channels, Number of Channels, Factors Affecting Choice of Distribution Channel, Channel Behavior and Organization, Channel Design Decision; Channel Management Decisions; Distribution Intensity; Partnering Channel Relationship.

Suggested Readings:

1. Still, Cundiff, Govoni, *Sales Management: Decisions, Strategies & Case*,— Prentice Hall, India.
2. Anderson R, *Professional Sales Management*, Englewood Cliff, New Jersey, Prentice Hall, India.
3. Spiro, Rosann L., Gregory A. Rich, and William J. Stanton, *Management of a Sales Force*, McGraw-Hill Irwin, Boston.
4. Dalrymple, Douglas J., and William L., *Sales Management: Concepts and Cases*, New York, NY: John Wiley and Sons.
5. Panda, T. K., Sahadev, S., *Sales And Distribution Management*, Oxford Publishing, India
6. Hughes, G. David, Daryl McKee, Charles H. Singler, *Sales Management: A Career Path Approach*, Cincinnati, OH: South-Western College Publishing
7. Peppers, D. & Rogers, M., 'The short way to long-term relationships'. *Sales and Marketing Management*

Important Instructions for the Course Coordinator and the Examiner:

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MM-305

LOGISTICS MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to enable students understand the importance and dynamics of a firm's physical distribution functions and management of its supply chain.*

Course Outcomes:

- CO1: Students will be able to recall the terms used in logistics.
- CO2: Students will be able to describe the importance of logistics.
- CO3: Students will be able to apply the concepts of logistics for marketing.
- CO4: Students will be able to appraise the components related to logistics.
- CO5: Students will be able to evaluate the dynamics of physical distribution functions.
- CO6: Students will be able to create an efficient logistics system for an organization.

Course Contents:**UNIT-I**

Introduction to Logistics Management: Nature, Role, Scope and Evolution of Logistics Management, Operational Objectives of Logistics; Concept of Supply Chain Management; Marketing and its Interface with Logistics; Total Cost Analysis and Trade off; Concept of Customer Service: Components of Customer Service, Customer Service Cost, Customer Service Measurement; Major Components/Decisions of Logistics Management; Integrated Logistics System; Distribution related issues and Challenges for Logistics.

UNIT-II

Transportation Decisions: Role of Transportation in Logistics, Elements of Transportation Cost, Selection of Transportation Mode, Multi-Decision Areas of Transportation: Containerization, Transportation Network and Tariffs; Third Party Logistics; Inventory Management: Role of Inventory Management in Logistics, Elements of Inventory Costs, Decision Areas of Inventory Management, Techniques of Inventory Control, Economic Order Quantity Under Conditions of Certainty and Uncertainty.

UNIT-III

Modern Concept of Warehousing: Role and Types of Warehouses, Warehouse Functions, Planning Warehousing Operations, Site Selection, Warehouse Layout, Operational Mechanism and Automation in Warehousing; Information and Order Processing: Role of Information System in Logistics Management; Order Processing: Nature and Concept, Functions of Order Processing; Elements of Ordering cost.

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UNIT-IV

Packaging: Role of Packaging in Logistics, New Emerging Packaging Alternatives, Packaging operations, Factors affecting packaging decisions; Material Handling: Objectives of Material Handling, Material Handling considerations; Equipments for Material Handling, Factors affecting Material Handling decisions.

Distribution Control and Performance Evaluation: Integration of Logistics with Distribution System, IT-enabled Distribution and Logistics Management, Distribution Control and Performance Measurement.

Suggested Readings:

1. Bowersox and Others: *Physical Distribution Management*, Tata McGraw Hill, New Delhi.
2. Stern, Louis W. Adel, I.E.L. – Ansary, Annee T. Coughlan: *Marketing Channels*, Prentice Hall, New Delhi.
3. Ballu, Ronald H, *Business Logistics Management*, Englewood Cliffs, New York, Prentice Hall Inc.
4. Martin, Christopher and Gordon Wills: *Marketing Logistics and Distribution Management*
5. Khanna, K.K. *Physical Distribution Management*, Himalaya Publishing House, New Delhi.
6. Lambert, D. et. al., *Strategic Logistics Management*, Tata McGraw Hill, New Delhi.
7. Chopra, S and Meindl, P, *Supply Chain Management- Strategy, Planning and Operation*, Pearson Education.

Important Instructions for the Course Coordinator and the Examiner:

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MM-306

MARKETING OF SERVICES

Time Allowed: 3 Hours

M.M:70

Course Objective: The aim of this paper is to explicate the cutting edge service concepts to the students through bridging the gaps between theory and real world by incorporating practical management applications.

Course Outcomes:

- CO1: Students will be able to relate service and technology.
- CO2: Students will be able to classify services and recognize service challenges.
- CO3: Students will be able to use marketing research as a tool to understand customers and to deploy employees for service delivery.
- CO4: Students will be able to examine the reasons of service failure and implementing strategies to recover it.
- CO5: Students will be able to evaluate delivery and performance of services.
- CO6: Students will be able to construct service design and standards.

Course Contents:**UNIT- I**

Introduction to Services: Service and Technology, Goods versus Services, Service Marketing Mix, Gap model of Services, important service industries-Hospitality and Tourism, Transportation, Telecom, Banking and Insurance, Education and Entertainment, Healthcare. Service classification and challenges in Service Business.

UNIT- II

Focus on the Customer: Consumer behaviour in Services, Customer Expectation of Services, and Customer perception of services Elements in an effective services marketing research programme, Building customer relationship, Relationship development strategies, Reasons of Service failure, Service recovery and strategies.

UNIT- III

Aligning Service design and standards: Challenges of Services Innovation and design, new service development process Service Blueprinting, Customer-defined service standards and its types, Physical evidence and types of servicescape, Strategic roles of servicescape

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UNIT- IV

Delivering and performing services: Employees role in service delivery, Customers role in-service delivery, Delivering services through intermediaries and electronic channels, Strategies for matching capacity and demand, Key service communication challenges, Approaches to pricing services, Financial and Economic impact of services.

Suggested Readings:

1. Zeithaml, V., Bitner, M.J., Gremler, D.D. & Pandit, A., *Service Marketing*. McGraw Hill.
2. Lovelock, C., Wirtz, J. & Chatterjee, J., *Services Marketing*. Pearson Education.
3. Srinivasan, *Service marketing: Indian Context*, PHI
4. Swartz, T., Iqobucci, D., *Handbook of Service Marketing and Management*, Sage Publication

Important Instructions for the Course Coordinator and the Examiner:

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MM-307

PRODUCT AND BRAND MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to impart in depth knowledge to the students regarding the theory and practices of brand management.*

Course Outcomes:

- CO1:** Students will be able to define basic branding concepts and outline major branding issues.
- CO2:** Students will be able to identify branding challenges and opportunities.
- CO3:** Students will be able to apply marketing programme to build brand equity.
- CO4:** Students will be able to examine and implement different branding programmes.
- CO5:** Students will be able to evaluate brand performance and evaluating brand extension opportunities.
- CO6:** Students will be able to design and implement different branding strategies.

Course Contents:**UNIT-I**

Branding terminology, basic branding concepts- brand awareness, brand personality, brand image, brand identity, brand loyalty, brand equity, major branding decisions: selecting a brand name, brand extension decision, family versus individual brand names, multiple branding, private versus national branding, importance of branding.

UNIT II

Branding challenges and opportunities, concept of brand equity, sources and benefits of brand equity, customer based Brand equity, designing marketing programme to build brand equity, measurement of brand equity, Strategic brand management process, concept of Brand positioning and repositioning, Identifying and establishing brand positioning and values.

UNIT III

Planning and implementing brand marketing programmes, designing marketing programmes, measuring and interpreting brand performance, Legal aspects of Branding, Copyright, Trademarks and IPR, designing and implementing branding strategies; Brand building and communication, E-Branding, handling brand name changes

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UNIT IV


New products and brand extension, evaluating brand extension opportunities, reinforcing brands, revitalising brands, managing brands over geographic boundaries and market segments, rationale for going international, global marketing programmes- advantage and disadvantage, standardisation versus customisation, global brand strategy. Branding in rural marketing, branding in specific sectors: retail, industrial, service brands

Suggested Readings:

1. Kevin Lane Keller, *Strategic Brand Management*, Pearson Education.
2. David A Aaker, *Managing Brand Equity*, New York, Free Press.
3. Don Cowley, *Understanding brands*, Kogan page
4. J.N. Kapferer, *Strategic Brand Management*, Free Press.

Important Instructions for the Course Coordinator and the Examiner:

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FOURTH SEMESTER

MM- 401

GLOBAL MARKETING**Time Allowed: 3 Hours****M.M:70**

Objective: *The basic objective of this course is to acquaint the students with environmental, procedural, institutional and decisional aspects of global marketing.*

Course Outcomes:

- CO1: Students will be able to describe basic global market entry strategies.
- CO2: Students will be able to identify the emerging issues and developments in global marketing.
- CO3: Students will be able to interpret the marketing environment at global level.
- CO4: Students will be able to differentiate the marketing practices at domestic and global level.
- CO5: Students will be able to evaluate the marketing mix strategy of a company competing at global level.
- CO6: Students will be able to create global marketing strategies.

Course Contents:**UNIT-I**

Global Marketing- Introduction, Drivers towards globalization, Global marketing objectives; Initial modes of entry; Process of international marketing. Culture and Global Marketing- Cultures across countries, Culture and negotiations.

UNIT -II

Country Attractiveness- Environmental research, Entry evaluation procedure, Country data sources, Forecasting country sales and market share. Local Marketing- Understanding local customers, Local marketing in mature markets and growth markets.

UNIT-III

Global Segmentation and Positioning- Global market segment, Targeting segments, Global product positioning. Global products- Standardization versus Adaptation, Developing new global products, Global brand management.

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UNIT-IV

Global Pricing- Pricing policy and strategy, Transfer pricing, Counter trade. Global Distribution- Local channels, Wholesaling and retailing, Global logistics, Effects of parallel distribution. Global Advertising and Promotion- Global advertising decision, Elements of global advertising, Global sales promotion; E-commerce as a tool of global marketing.

Suggested Readings:

1. Warren, J. Keegan, *Global Marketing Management*, Pearson Edu/PHI, New Delhi
2. Johansson Johny, *Global Marketing: Foreign Entry, Local Marketing and Global Management*, McGraw Hill.
3. Sak Onkvisit and John Shaw, *International Marketing (analysis and Strategy)*, PHI.
4. Phillip R. Cateora, *International Marketing*, Tata McGraw Hill.
5. Vern Terpestra and Ravi Sarathy, *International Marketing*, Thomson
6. R. L. Varshney and B. Bhattacharya, *International Marketing*, Sultan Chand Publications.

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MM-402

INDUSTRIAL MARKETING

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to lay a foundation for an understanding of the complex dimensions of Industrial Marketing.*

Course Outcomes:

- CO1: Students will be able to describe terms, concepts, and nature of industrial marketing.
- CO2: Students will be able to compare industrial marketing with consumer marketing.
- CO3: Students will be able to interpret the role of each stakeholder in industrial marketing value chain.
- CO4: Students will be able to appraise competitor marketing strategy.
- CO5: Students will be able to evaluate marketing mix strategy for industrial products.
- CO6: Students will be able to develop an effective marketing strategy for industrial products.

Course Contents:

UNIT-I

Industrial Marketing: concept, nature and scope of industrial marketing; Difference between industrial and consumer marketing; Economics of industrial demand; Understanding industrial markets and environment: Types of industrial customers, Classification of industrial products, Marketing implications for different customers and different product types, Purchase practices of industrial customers, Environmental analysis in industrial marketing.

UNIT-II

Organisational Buying and Buyer behavior: Buyer motives, Phases in industrial buying decision process, Types of buying situations, Interpersonal Dynamics of industrial buying behavior, Buyer-Seller relationship, Models of industrial buying behavior, Industrial Marketing Research process; Industrial market segmentation, target marketing and positioning.

UNIT-III

Product Strategy: Meaning and Concept of an industrial product, Determinants of product mix, Industrial Product Life Cycle and strategies, New product development process; Marketing strategies for product related services and pure services; Industrial pricing decisions: Factors influencing pricing decisions, Pricing strategies, Pricing methods.

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UNIT-IV


Industrial distribution channels and marketing logistics: Distinctive nature of industrial distribution channels, Factors affecting the nature of industrial channels, Role of intermediaries, Types of industrial intermediaries, Channel design decisions, Role of logistics and customer services in industrial marketing, Major components/Major decision areas of logistics, Total cost approach; Industrial marketing communication: Role of personal selling and direct marketing in industrial marketing, Personal selling process, Importance of advertising, and sales promotion in industrial marketing, Sales force management, Strategic planning, Implementing and Controlling in industrial marketing.

Suggested Readings:

1. Reeder, Robert R. *Industrial Marketing: Analysis, Planning and Control*. Englewood Cliffs. New Jersey, Prentice Hall Inc.
2. Havalder, Krishna K., *Industrial Marketing*, TMH, New Delhi
3. Havalder, Krishna K: *Text and Cases*, TMH, New Delhi
4. Brennan, R, Canning, L & McDowell, R, *Business to Business Marketing*, Sage Publications Ltd.,
5. Hill, Richard, etc. *Industrial Marketing*, Homewood Illionis, Richard D. Irwin.
6. Webster, F E. *Industrial Marketing Strategy*, New York, John Wiley.
7. Ghosh, P.K, *Industrial Marketing*, Oxford University Press.
8. Mukerjee, *Industrial marketing*, Excel Books India

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MM-403

RURAL MARKETING**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to analyze the major concepts of rural and agricultural marketing in coherent and critical manner.*

Course Outcomes:

- CO1:** Students will be able to recite problems in rural marketing and changing focus of corporate towards rural market.
- CO2:** Students will be able to recognize need of agricultural marketing in economic development and constraints of agricultural marketing.
- CO3:** Students will be able to solve the problems of cooperative sector in India.
- CO4:** Students will be able to appraise role of supply chain in agricultural marketing.
- CO5:** Students will be able to evaluate role of government and financial institution in growth of rural and agricultural marketing.
- CO6:** Students will be able to develop model for rural and agricultural marketing.

Course Contents:**UNIT-I**

Features, Significance, Scope and Limitations of rural markets in India; Environmental factors affecting rural markets; Changing focus of corporate towards rural markets; Demographic and psychographic profile of rural consumer; Classification of products and services in Rural marketing, rural demand and problems in rural marketing.

UNIT-II

Agriculture Marketing –Definition, Scope, Concept and Objectives; Differences in Agricultural and Consumer Marketing; Constraints in Agricultural marketing; Role of Agriculture in Economic Development of India; Role of Government in Agricultural Development; Agribusiness; Export potential for farm products -Supporting Services.

UNIT-III

Cooperative Marketing –Concept, History, Functions – Reasons for slow progress of cooperative sector, Advantages & Limitations of Organized retailing in Agri Inputs and Outputs, Trends in Agri Marketing. Supply Chain Management in Agri Business i.e. Cold Chains, Organized procurement & warehousing.

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UNIT- IV


Marketing Mix for rural products; Role of financial institutions in rural marketing. Rural marketing strategies: Different models and case studies of corporate vis Tata Kisan Seva Kendra, Commodity market functioning etc. Innovative distribution Channels like ITC E-Choupal, Godrej Adhar, HUL Shakti.

Suggested Readings:

1. Acharya S. S. and Agarwal N. L., *Agricultural Marketing in India*, Oxford & IBH Publishing Co.
2. Dr. Subhash Bhawe, *Agribusiness Management in India –Text & Cases*.
3. Arora, R C., *Integrated Rural Development*, Scharnd.
4. Desao. Vassal. *Rural Development*, Himalaya Publishing House
5. Mishar, S. N., *Politics and Society in Rural India*, Inter India.
6. Porter, Michael, E. *Competitive Strategy*, Free Press.
7. T.P Gopalaswamy, *Rural marketing- Environment, problems and strategies*

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MM-404

CUSTOMER RELATIONSHIP MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The aim of this course is to acquaint the students with concepts, techniques and give experience in the application of concepts for developing effective Customer Relationship programme.*

Course Outcomes:

- CO1: Students will be able to describe the customer equity.
- CO2: Students will be able to identify the benefits of value creation for retaining customers.
- CO3: Students will be able to interpret the role of appropriate business process and technology management capabilities in managing customer relationship.
- CO4: Students will be able to compare different processes.
- CO5: Students will be able to evaluate CRM implementation Strategies.
- CO6: Students will be able to design the strategies framework for the CRM integration in the existing function of the organisation.

Course Contents:**UNIT-I**

Prerequisites to CRM: Changing face of Indian market, Customer ownership and customer values, Customer life cycle (CLC) and Customer lifetime value (CLV), Customer relationship. Relationship Marketing- From traditional marketing approach to relationship marketing organizational pervasive approach, Service level agreements (SLA)

UNIT- II

Understanding CRM, Technology and CRM, Levels of CRM, Loyalty Management, Loyalty programmes, reasons of failure of loyalty programmes.
Service quality and service capacity planning: service capacity planning process; Customer driven quality and Quality Management System (QMS)

UNIT-III

Planning and implementation of CRM, CRM and Sales Force Automation (SFA): Objectives, Strategic advantage of SFA, Key factor for successful SFA. . .
eCRM: Benefits, Data handling, eCRM systems/applications in market, specifications of eCRM solutions, Scope and Significance of a CRM project, CRM implementation process.

REGISTRATION

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Hisar-125001 (Haryana)

UNIT-IV

Making CRM a success: Success factors for CRM, Business Process Reengineering (BPR) for CRM implementation, Data Quality Management (DQM). Securing Customer Data: Information security management system, Ethical issues in CRM, IT solutions of CRM and its Integration, Future of CRM.

Suggested Readings:

1. Makkar, U. & Makkar, H. K., *Customer Relationship Management*, McGraw Hill Education.
2. Dyche, Jill., *The CRM Handbook-A Business Guide to CRM*, Pearson Education Asia.
3. Anton, J., Petouhoff, N.L. & Kalia, S., *Customer Relationship Management*, Pearson.
4. Kumar, V. & Reinartz, W., *Customer Relationship Management: Concept, Strategy, and Tools*, Springer.
5. Brown, A. Stanly, *Customer Relationship Management*, John Wiley.
6. Gosney, John W. and Thomas P. Boehm, *Customer Relationship Management Essentials*, Prentice Hall.
7. S  th, Jagdish N., *Customer Relationship Management*, Tata McGraw Hill Publishing Co.

Important Instructions for the Course Coordinator and the Examiner:

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Registrar

**Gur Jambhwar University of
Science & Technology
HUSA-125001 (Haryana)**

MM- 405**RETAIL MANAGEMENT****Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to familiarize the students with the basic concepts of retailing and understanding retail business so as to make them ready for future roles as managers*

Course Outcomes:

- CO1:** Students will be able to define the different terms used in the retail sector.
- CO2:** Students will be able to identify the current retail structure in India.
- CO3:** Students will be able to demonstrate the insights of retailing and related key activities.
- CO4:** Students will be able to appraise the importance of retailing and its role in the success of modern businesses.
- CO5:** Students will be able to evaluate the current marketing scenario and identify retail opportunities thereof.
- CO6:** Students will be able to develop a retail plan for opening up a retail store:

Course Contents:**UNIT-I**

Introduction to Retail- Evolution of Retail, Organised Vs Unorganised retailing, Retail Mix, theories of retail development, Types of Retailers; Careers in Retailing; Understanding Consumers.

UNIT-II

Retail Locations- Planned and Unplanned, Retail Site Location- Site Characteristics, Trade Area Characteristics, Location and Site Evaluation; Store Layout and Design; Space Management; Visual Merchandising; Atmospherics

UNIT-III

Managing Merchandise - Merchandise Planning, Process, Forecasting Sales, Developing Assortment Plans, National Brands and Private Labels; Retail Pricing- Setting Retail Prices, Price Adjustments, Pricing Strategies; Retail Communication Mix.

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HISAR-125001 (Haryana)

UNIT-IV

Information and Supply Chain Management- Information Flows, Logistics, Distribution Centre. Contemporary issues in Retail-Significance of retail as an industry, Retail scenario at International and National Level, Technology in Retailing, Multi-channel Retailing, E-Retailing: Future of e-retailing, Challenges for traditional retail and e-retail, FDI in Retail.

Suggested Readings:

1. Pradhan, S., *Retailing Management Text and Cases*, Mc Graw Hill Education, New Delhi
2. Levy, Micheal, Weitz, Barton, A. and Pandit, Ajay, *Retailing Management*, Tata McGraw Hill, New Delhi
3. Berman, Barry and Evans, Joel, R., *Retail Management; A Strategic Approach*; PHI/Pearson Education; New Delhi
4. Newman, Andrew, J. & Cullen, Peter, *Retailing: Environment & Operations*, Vikas Publishing House; New Delhi.
5. Gilber, David, *Retail Marketing Management*, Pearson Education, New Delhi.

Important Instructions for the Course Coordinator and the Examiner:

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Registrar

Chauhan Jyoti Keshwar University of
Science & Technology
HISAR-125001 (Haryana)

MM-406

SOCIAL MARKETING**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of the course is to familiarize the students to design social campaigns with a view to bring change in the behavior of the public in the fields of public health and environment.*

Course Outcomes:

- CO1: Students will be able to describe the meaning and nature of social marketing.
- CO2: Students will be able to recognize the range of stakeholders involved in social marketing programmes and their role as target markets
- CO3: Students will be able to interpret the marketing mix strategies in social marketing.
- CO4: Students will be able to appraise social marketing problems and suggest ways of solving.
- CO5: Students will be able to evaluate the social marketing plan.
- CO6: Students will be able to develop a social marketing plan for achieving behavioral change.

Course Contents:**UNIT-I**

Social Marketing: Concept, Scope, Comparison with Commercial Marketing, Approaches to influence public Behavior; Social Marketing Planning Process; Elements of Campaign.

UNIT-II

Social Marketing Environment: Campaign Focus and purpose, Mapping the Internal and External Environments; Establishing Target Audiences: Target Marketing.

UNIT-III

Setting Campaign Objectives and Goals: Behavior Objective, Knowledge Objective, Belief Objective; Social Marketing Strategies: Product in social marketing, Price of a social marketing product.

UNIT-IV

Promotional Strategies: Types of Media Channels, Choosing Media Vehicles, Timings and Factors Influencing media strategies; Plan Evaluation and Monitoring: Outcome measures, Process Measures; Establishing Budgets and finding Funding Sources.

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Science & Technology
Hisar-125001 (Haryana)

Suggested Readings:

1. Philip, Kotler, Ned Roberto, Nancy Lee, *Social Marketing: Improving the quality of life*, Sage Publication,
2. Nancy, R., Lee, Philip, Kotler, *Social Marketing; Influencing Behavior for Good*, Sage, R., Kraig, Lefebvre, *Social Marketing and Social Change*, Wiley.
3. Hong, Cheng, Philip Kotler, Nancy R. Lee, *Social Marketing for Public Health: Global Trend and Success Stories*, Jones and Bartlett Publishers, LLC

Important Instructions for the Course Coordinator and the Examiner:

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Registrar

**Guru Jambheshwar University, on
Science & Technology
Hisar-125001 (Haryana)**

MM- 407 DIGITAL AND SOCIAL MEDIA MARKETING**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The aim of this paper is to acquaint the students with the concepts, techniques and developing skills regarding application of effective digital and social media marketing.*

Course Outcomes:

- CO1:** Students will be able to define various terms used in the field of digital and social media marketing.
- CO2:** Students will be able to explain the procedures used in planning and implementation of digital and social media marketing.
- CO3:** Students will be able to illustrate existing digital and social media marketing strategies.
- CO4:** Students will be able to distinguish the utility of various social media platforms for promoting a brand.
- CO5:** Students will be able to select the most suitable social media platform to market a brand.
- CO6:** Students will be able to design a social media marketing strategy for a brand.

Course Contents:**UNIT I**

Introduction to digital marketing, advantages of digital medium over other media, Impact of internet on consumer buying behaviour. Domain names; Website hosting; Lead generation; Ethical and Legal Issues in the field of digital marketing.

UNIT II

Search Engine Optimisation (SEO): Introduction to SEO; understanding search engines; basics of keyword research; On-page and off-page Search Engine Optimisation.

UNIT III

Search Engine Marketing (SEM): Introduction to SEM; Google Ad words; keywords; bidding and budget; quality score; creating and optimising campaign. Google Analytics; Content marketing; Affiliate marketing; Email marketing; Mobile marketing

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UNIT IV

Social media marketing: meaning; approach to social media; types of social media websites; blogging; social media engagement; social media ROI; using social media for branding and promotion. Marketing on Facebook, LinkedIn, YouTube, Instagram, Pinterest

Suggested Readings:

1. Parkin Godfrey, *Digital Marketing: Strategies for Online Success*, New Holland Publishers.
2. Charlesworth A., *Internet Marketing: A Practical Approach*, BH Publications.
3. Chaffey Dave, *Internet Marketing: Strategy, Implementation and Practice*, Pearson Education.
4. Trengove Alex, Malczyk Anna and Beneke Justin, *Internet Marketing*, Get Smarter under the Creative Commons BY-NC 3.0.

Important Instructions for the Course Coordinator and the Examiner:

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**INTERNATIONAL
BUSINESS AREA**

THIRD SEMESTER

102
IB-301

INTERNATIONAL FINANCIAL MARKETS

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to give students an in-depth knowledge of the working of international financial markets.*

Course Outcomes:

- CO1:** Students will be able to recall the structure and components of International Financial System through currency derivatives, future and option.
- CO2:** Students will be able to describe the concepts of International Financial Markets, their co-existence and mutual global importance.
- CO3:** Students will be able to illustrate the working and contribution of World Bank, IMF and other regional developments banks.
- CO4:** Students will be able to examine the linkages in the International Financial Markets vis-à-vis interaction between leading international currencies and monetary instruments in international financial markets.
- CO5:** Students will be able to evaluate the various procedures relating to international financial markets vis-à-vis bond market, derivatives and international portfolio diversification.
- CO6:** Students will be able to develop necessary competencies expected of an international finance professional who have the ability to analyse the cyclical waves in international financial markets.

Course Contents:

UNIT-I

Globalization and the Growth of Derivatives, Euro-currency Market, Euro banking and Euro-currency Centers, Term Structure of Euro-currency Rates, Euro-currency Futures and Options, Syndicated Euro-credits.

UNIT-II

International Bond Markets - Introduction, New Issue Procedures in the Eurobond Markets, Eurobond Valuation and Hedging, Interest Rates and Currency Swaps

Registrar

UNIT-III

New Instruments in International Capital Markets, International Banking, International Portfolio Diversification

UNIT-IV

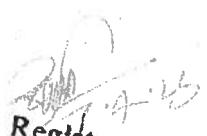
Multilateral agencies: International Development banks such as World bank, IFC and others, Regional development banks such as Asian Development bank and others, bilateral agencies.

Suggested Readings:

1. Buckley, Adrian, *Multinational Finance*, Englewood Cliffs, Prentice Hall Inc.
2. Eiteman, David K. & Stonehill, Arthur I, *Multinational Business Finance*, Addison-Wesley.
3. Johnson & Giaccott, *Options and Futures*. SI Paul, West.
4. Kim, Suk & Kim, Seung, *Global Corporate Finance: Text and Cases*, Miami.
5. Shapiro, Alan C., *Multinational Financial Management*, Prentice Hall of India.

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Registrar
 Guru Jambheshwar University
 Surajpur & Jambheshwar
 BHAN-12500 (Haryana)

IB-302 EXPORT-IMPORT PROCEDURES AND DOCUMENTATION**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The aim of the course is to acquaint the students with the know export-import procedures and documentation*

Course Outcomes:

CO1: Students will be able to describe the legal framework and procedure governing international trade.

CO2: Students will be able to explain the incorporation of various terms in drafting of an export contract and understand the importance of risk management.

CO3: Students will be able to apply the concepts learned in terms of export order, delivery and international trade pricing to actual transactions.

CO4: Students will be able to appraise the role and importance of export-import documentation and procedure framework according to commodities and countries.

CO5: Students will be able to evaluate the nuances of import and export clearance procedures.

CO6: Students will be able to develop the skills to export-import various commodities in different countries and avail benefits of various export incentives and promotional schemes given by government.

Course Contents:**UNIT I**

Export Preliminaries, Documentation in international trade: Aligned Documentation System (ADS); Commercial documents, Regulatory documents, Documents related to goods, shipment, payment, inspection and legal regulated documents, Official machinery for consultation.

UNIT II

Export contract: Distinction between domestic sales contract and export sales contract, Major laws for export contracts, Elements in export contracts, Dispute settlement, Role of ICC; INCOTERMS, Containerization.

UNIT III

Export order processing; shipping and custom clearance of export and import cargo; central excise clearance; Role of clearing and forwarding agents. Types of risks in international trade, Cargo Insurance and claim Procedures

UNIT IV


Methods of payment in international trade; documentary collection of export bills, UCPDC guideline, Instruments of payments, Pre-shipment and post-shipment finance, Negotiation of documents with banks, Main Provisions of FEMA; Procedure and documentation for availing export incentives

Suggested Readings:

1. C. Rama Gopal, *Export Import Procedures, Documentation and Logistics*, New Age International Publishers, New Delhi.
2. M. D. Jitendra, *Export Procedures and Documentation*, Rajat Publications.
3. Pervin Wadia, *Export Markets and Foreign Trade Management*, Manishka Publications.
4. Paras Ram, *Export: What, Where and How*, Anupam, Publications.
5. *Government of India, Handbook of Import – Export Procedures*.
6. *Nabhi's Exporters Manual and Documentation*.
7. *Nabhi's New Import-Export Policy Procedures*

Important Instructions for the Course Coordinator and the Examiner:

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 HUSA-125001 (Haryana)

IB-303

INDIA'S FOREIGN TRADE AND POLICY**Time Allowed: 3 Hours****M.M:70**

Course Objective: *To acquaint the students with recent trends in India's foreign trade management and policy related issues in the global context.*

Course Outcomes:

CO1: Students will be able to recall different terms used in India's Foreign Trade Policy.

CO2: Students will be able to describe the different concepts of India's Foreign Trade.

CO3: Students will be able to apply the terms used in India's Foreign Trade Policy in doing their business.

CO4: Students will be able to appraise the overall structure of India's foreign trade.

CO5: Students will be able to evaluate the different schemes run by government in promoting India's foreign trade.

CO6: Students will be able to create their own business by getting support from government.

Course Contents:**UNIT – I**

India's Foreign Trade Recent Trends, and Directional Pattern in the Global Context, objectives of foreign trade policy, Structure and Equilibrium of India's Balance of Payments, major exports and imports, prohibited and restricted items.

UNIT – II

Merchandise Exports from India Scheme (MEIS), Service Exports from India Scheme (SEIS), export promotion capital goods (EPCG) scheme, schemes for exporters of gems and jewellery, Duty exemption / remission schemes: duty free import authorization scheme (DFIA), deemed exports.

UNIT – III

Role of State Trading Organizations, Specific Service Institutions, Quality complaints and other trade Disputes, Role of EXIM Bank of India, Export Promotion Councils, Role of central board of excise and custom, Role of WTO in India's foreign trade policy.

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 Science & Technology
 BISAR-120002 (2019-2020)

UNIT – IV

Special Economic Zones, Agriculture Export Zones, Export Oriented Units electronics hardware technology parks (EHTPS), software technology parks (STPS) scheme and bio-technology parks (BTPS), Ministry of Commerce, organization and Role of DGFT in India's trade policy.

Suggested Readings:

1. Latest Foreign trade policy
2. Datt, Ruddar and Sundaram, K.P.M., *Indian Economy*, S.Chand & Co. New Delhi.
3. Mishra and Puri, *Indian economy*, Himalaya Publishing House.
4. *Export-Import Policy*, Nabhi Publications.
5. Paras Ram, *Export, What, Where & How*, Anupam Publications.
6. Bhalla, V.K., *International Business Environment and Management*, Anmol Publications.

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Guru Jambheshwar University
Science & Technology
HISAR-125001 (Haryana)

IB-304

GLOBAL MARKETING**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The basic objective of this course is to acquaint the students with environmental, procedural, institutional and decisional aspects of global marketing.*

Course Outcomes:

- CO1:** Students will be able to describe basic global market entry strategies.
- CO2:** Students will be able to identify the emerging issues and developments in global marketing.
- CO3:** Students will be able to interpret the marketing environment at global level.
- CO4:** Students will be able to differentiate the marketing practices at domestic and global level.
- CO5:** Students will be able to evaluate the marketing mix strategy of a company competing at global level.
- CO6:** Students will be able to create global marketing strategies.

Course Contents:**UNIT-I**

Global Marketing- Introduction, Drivers towards globalization, Global marketing objectives; Initial modes of entry; Process of international marketing Culture and Global Marketing- Cultures across countries, Culture and negotiations

UNIT -II

Country Attractiveness- Environmental research, Entry evaluation procedure, Country data sources, Forecasting country sales and market share. Local Marketing- Understanding local customers, Local marketing in mature markets and growth markets

UNIT-III

Global Segmentation and Positioning- Global market segment, Targeting segments, Global product positioning. Global products- Standardization versus Adaptation, Developing new global products, Global brand management.

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UNIT-IV

Global Pricing- Pricing policy and strategy, Transfer pricing, Counter trade. Global Distribution- Local channels, Wholesaling and retailing, Global logistics, Effects of parallel distribution. Global Advertising and Promotion- Global advertising decision, Elements of global advertising, Global sales promotion; E-commerce as a tool of global marketing

Suggested Readings:

1. Warren, J. Keegan, *Global Marketing Management*, Pearson Edu/PHI, New Delhi
2. Johansson Johny, *Global Marketing: Foreign Entry, Local Marketing and Global Management*, McGraw Hill.
3. Sak Onkvisit and John Shaw, *International Marketing (analysis and Strategy)*, PHI.
4. Phillip R. Cateora, *International Marketing*, Tata McGraw Hill.
5. Vern Terpstra and Ravi Sarathy, *International Marketing*, Thomson
6. R. L. Varshney and B. Bhattacharya, *International Marketing*, Sultan Chand Publications.

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Registrar
Guru Jnaneshwar University of
Science & Technology
HISAK-125001 (Haryana)

IB-305

INTERNATIONAL LOGISTICS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *This course exposes students to the fundamentals of logistics as applied to international business.*

Course Outcomes:

- CO1: Students will be able to recall the different terms of international logistics.
- CO2: Students will be able to differentiate the transportation through different modes, i.e., road, rail, air, and ships.
- CO3: Students will be able to apply the knowledge to optimize the logistics cost.
- CO4: Students will be able to compare the role of various agencies involved in the international logistics business.
- CO5: Students will be able to judge and select the efficient agency involved in international logistics.
- CO6: Students will be able to create an optimal logistics strategy for a company.

Course Contents:**UNIT – I**

Logistics: Concept, objectives and scope; logistics interface with marketing; Logistics System elements, Relevance of International logistics, logistics as a strategic resource, Principles for logistics excellence.

UNIT II

General Structure of Shipping Industry: Characteristics, liner and tramp operations; Liner conferences; Freight structure and practices; chartering principles; UN convention on shipping.

UNIT III

Developments in Ocean Transportation: Containerization: Inland container depots; Multi-modal transportation and CONCOR; Highlights of the Multi-modal Transport of Goods Act 1993, Role of intermediaries including freight forwarders, Shipping agents, freight brokers and Stevedores.

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HISAK-125001 (Ghatvana)

UNIT IV

Port organization and management: Responsibilities of Port Trust: Major ports of India; International Maritime Organization (IMO), INCOTERMS, Air Transport Management, Air Cargo Tariff Structure

Suggested Readings:

1. Annual Reports, INSA.
2. Annual Reports, CONCOR.
3. Bowersox, Dhohld J. and Closs David J., *Logistical Management*, Tata McGraw-Hill
4. Coyle, Bard and Langley, *The management of Business Logistics*, Thomson.
5. Pierre Davd, *International Logistics*, Biztantra.
6. Bloomberg David J., Stephan Lemay & Joe B. Hanna., *Logistic*, PHI.
7. Shipping Documents and Reports, UNCTAD.
8. Krishnaveni, M., *Logistice Management and World Seaborne Trade*, Himalaya Publishing House, New Delhi.

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**Guru Jambheshwar University of
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IB-306

INTERNATIONAL ACCOUNTING**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to acquaint the students with the accounting needs of international financial markets and to analyze the accounting measurement and reporting issues unique to multinational business transactions.*

Course Outcomes:

- CO1:** Students will be able to describe the basic concepts related to International Accounting, International Audit and International Accounting Standards.
- CO2:** Students will be able to explain in detail International Audit Environment and harmonization of International Accounting Practices.
- CO3:** Students will be able to illustrate the international perspective on Inflation Accounting, International Financial Reporting and Transfer Pricing.
- CO4:** Students will be able to examine the Foreign Financial Statements and international accounting for Environmental Protection.
- CO5:** Students will be able to evaluate the international accounting practices impact on Foreign Currency Translation and International Audit.
- CO6:** Students will be able to assemble international accounting practices.

Course Contents:**UNIT – I**

International dimensions of accounting; conceptual development and comparative development patterns; foreign currency translation; international audit environment

UNIT – II

International accounting standards: concept and mechanism of setting international standards, disclosure requirements of international accounting standards.

UNIT – III

Managing international information systems; international perspective on inflation accounting; international dimensions of financial reporting; harmonization of accounting practices

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UNIT – IV

Analyzing foreign financial statements; accounting for environmental protection measures.
Transfer pricing.

Suggested Readings:

1. Arpon, Jeffrey S. and Radebaugh, Lee H., *International Accounting and Multinational Enterprises*, John Wiley.
2. Choi, Frederick D. S. and Mueller Gerhard G., *International Accounting*, Englewood Cliffs, Prentice Hall Inc.
3. Evans, Thomas G., *International Accounting & Reporting*, MacMillan.
4. Gray, S I., *International Accounting and Transnational Decisions*, Butterworth.
5. Holzer, H Peter, *International Accounting*, Harper & Row.
6. Prodhan, Bimal, *Multinational Accounting*, Croom-Helm.
7. Rathore, Shirin, *International Accounting*, Englewood Cliffs, Prentice Hall Inc.

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Guru Jambheshwar University of
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Hisar-125004 (Haryana)

IB-307 RISK MANAGEMENT IN INTERNATIONAL BUSINESS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of the course is to introduce state of the art tools and necessary for planning, executing and maintain risk management risk management in today's environment*

Course Outcomes:

- CO1:** Students will be able to describe the basic concepts of risk management in international management vis-à-vis International Financial Derivatives and Foreign Exchange Risk Management.
- CO2:** Students will be able to explain and illustrate the terminology used in risk management vis-à-vis Financial Risk, Credit Risk and Political Risk.
- CO3:** Students will be able to apply optimum solutions in the cases of risk management especially in international scenario through hedging with currency future and option.
- CO4:** Students will be able to differentiate between Options and Futures pricing in risk management and apply the understanding in the simulated foreign currency derivatives and cultural diversities in risk analysis.
- CO5:** Students will be able to evaluate the various risk management strategies for their application in international business.
- CO6:** Students will be able to develop the analytical ability to apprehend and comprehend the risk management practices and their impact on international business vis-à-vis cultural diversities, currency derivatives and asset liability management.

Course Contents:**UNIT-I**

The concept of risk, Benefit of risk management, Country risk analysis, Cultural diversity and Multi-National Corporations.

UNIT-II

Financial risk management, Management of credit risk, Political risk and its management. Foreign Exchange Risk Management

UNIT-III

Risk management through derivative: Swaps Forwards, Futures, Options, Option prices models, interest rate derivatives, foreign currency derivatives.

UNIT-IV


Concept of value at risk, Approaches for calculating value at risk, introduction to assets liability management. Organizational and Accounting issues in Risk Management, Case studies in risk management

Suggested Readings:

1. Milind S., *International Financial Management*, John Wiley and Sons.
2. Chance, D.M., *An introduction to Derivatives and Risk Management*, Harcourt College Publishers.
3. Marrison, C, *Fundamentals of Risk management*, TMH Publications.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
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FOURTH SEMESTER

IB-401

FOREIGN EXCHANGE MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *To acquaint the students with the mechanism of the foreign exchange markets, measurement of the foreign exchange exposure, and hedging against exposure risk. Upon successful completion of this paper, Students should expect to learn the nature and purposes of foreign exchange management under the new financial order evolving higher degree of vulnerability in a highly borderless financial world.*

Course Outcomes:

CO1: Students will be able to state appropriate formats and technologies to financial communication.

CO2: Students will be able to identify market conventions on exchange rate quotation and correctly calculate those quotations.

CO3: Students will be able to apply information within the global financial environment of foreign exchange to solve problems and make informed decisions.

CO4: Students will be able to appraise forward exchange rates given spot exchanges rates and rationale behind it.

CO5: Students will be able to evaluate the problems of dealing in foreign currency and the advantages and disadvantages of overseas funding.

CO6: Students will be able to develop an integrative understanding of the foreign exchange market and the relationships between interest rates, spot and forward rates and expected inflation rates.

Course Contents:

UNIT-I

Foreign Exchange Market: Function and Structure of the Forex markets, Foreign exchange market participants, Types of transactions and Settlements Dates, Exchange rate quotations, Nominal, Real and Effective exchange rates, and Determination of Exchange rates in Spot markets. Exchange rates determinations in Forward markets. Exchange rate behavior-Cross Rates Arbitrage profit in foreign exchange markets, Swift Mechanism.

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UNIT-II

International Parity Relationships & Forecasting Foreign Exchange rate:- Measuring exchange rate movements-Exchange rate equilibrium – Factors effecting foreign exchange rate- Forecasting foreign exchange rates .Interest Rate Parity, Purchasing Power Parity & International Fisher effects.

UNIT-III

Foreign Exchange Exposure:- Management of Transaction exposure (Case Study: Airbus Dollar Exposure); Management of Translation exposure- Management of Economic exposure (Case study: Exporter's/Importer's Position: Hedge or Hedge Not).

UNIT-IV

Foreign exchange risk Management: Hedging against foreign exchange exposure – Forward Market- Futures Market- Options Market- Currency Swaps-Interest Rate Swap. Cross currency Swaps-Hedging through currency of invoicing- Hedging through mixed currency invoicing.

Suggested Readings:

1. Eun and Resnick, *International Financial Management*, Tata McGraw Hill.
2. Eiteman, Moffett and Stonehill, *Multinational Business Finance*, Pearson.
3. Jeff Madura, *International Corporate Finance*, Cengage Learning.
4. Alan C. Shapiro, *Multinational Financial Management*, Wiley India
5. Apte, P. G *International Financial Management*, TMH.
6. Maurice Levi International Finance, Routledge.
7. Paul Einzip, *A Textbook on Foreign Exchange*
8. Paul Roth, *Mastering Foreign Exchange and Money Markets*, Pitman.

Important Instructions for the Course Coordinator and the Examiner:

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IB-402

REGIONAL ECONOMIC BLOCKS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of the course to familiarize the students with the theoretical framework of the theory of economic integration, and its impact on trade and investment flows among the region and on the global economy.*

Course Outcomes:

CO1: Students will be able to recall different terms related to regional blocks.

CO2: Students will be able to describe the various functions of regional blocks.

CO3: Students will be able to interpret the various economic issues among the regional blocks vis-à-vis world trade.

CO4: Students will be able to appraise and distinguish between the strong and weak regional blocks and their reasons.

CO5: Students will be able to distinguish the role of regional economic blocks as building blocks in the world trade.

CO6: Students will be able to construct and develop a link between regional blocks, WTO and world trade partners.

Course Contents:**UNIT-I**

Regionalism in the World Economy, Theory of Economic Integration, Levels of economic integration

UNIT-II

Selected Regional Blocks - NAFTA, EU, ASEAN, SAARC

UNIT-III

Globalization Vs. Regionalization; Building Blocks or Stumbling Blocks, Benefits and cost of economic integration, Economic integration schemes

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UNIT-IV

Ongoing challenges - Environment Volatility, Rise of Global Mania; Regional Alternatives;
India's Free Trade Agreements

Suggested Readings:

1. Gerber James, International Economics, Pearson Education.
2. Balassa, Bela., Theory of Economic Integration, George Allen & Unwin Ltd..
3. Bhalla, V.K., World Economy in 90s: A Portfolio Approach, Anmol Pub. Pvt. Ltd.
4. Dreze, Jean & Sen, Aamrtya, Indian, Development: Selected Regional Perspective,
5. Oxford University Press
6. Jackson, J., The World Trading System, Mass: MIT Press.
7. Krugman, Paul R. & Obstfeld, M., International Economics, Harper Collins Pub.
8. Machlup, F. A., History of Thought on Economic Integration, Macmillan.
9. Trivedi, Sonu, Regional Economic Cooperation and Integration, New Century
10. Publications.
11. Chhibber, Bharti, Regional Security and Regional Cooperation', New Century
12. Publications

Important Instructions for the Course Coordinator and the Examiner:

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HISAK-120401 (12/04/01)

IB-403

MANAGEMENT OF INTERNATIONAL FINANCE

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this paper is to give students an overall view of the international financial system and how multinational corporations operate.*

Course Outcomes:

- CO1:** Students will be able to describe the environment of international finance.
- CO2:** Students will be able to compare domestic financial management with international financial management
- CO3:** Students will be able to apply various mathematical formulas in financial decisions.
- CO4:** Students will be able to examine issues related to various finance functions of MNCs.
- CO5:** Students will be able to evaluate issues related to financial management in different MNCs.
- CO6:** Students will be able to create financial management guidelines for organizations operating at international level.

Course Contents:

UNIT-I

Finance function in multinational firm; Institutional structure of international financial markets; cost and availability of international financial flows; international financial instruments.

UNIT-II

International Working Capital Management: Aspects of international cash management; Investment criteria and borrowing decisions; centralized versus decentralized cash management; international receivables management; securitization of receivables.

UNIT-III

International investment factors and benefit; direct portfolio investment; international CAPM; capital budgeting for foreign direct investment; assessing and management political risk.

UNIT-IV

International aspects of raising capital; determining financial structure of foreign subsidiaries of MNCs; financial choices for an MNC and its foreign affiliates; costs and risks of financing

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Suggested Readings:

1. Maurice D. Levi, International Finance, McGraw-Hill.
2. Buckley, Multinational Finance, Prentice-Hall of India.
3. Shapro, A.C., Multinational Financial Management, Prentice-Hall.
4. Apte, P. G., *International Financial Management*, Tata McGraw-Hill.

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- The examiner is required to cover all course outcomes framed for a particular course in a balanced manner while setting nine questions in all. The first question will be compulsory consisting of six short questions covering the entire syllabus. In addition, eight more questions will be set comprising two questions from each unit. Wherever possible, the examiner may give a case study that will be equal to one question only. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No. 1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.


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IB-404

GLOBAL STRATEGIC MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The course aims at imparting knowledge of Formulation, Implementation and evaluation of Strategies in International Business.*

Course Outcomes:

- CO1:** Students will be able to define various concepts, terms related to global strategic management.
- CO2:** Students will be able to explain the various problem areas of global strategic management.
- CO3:** Students will be able to apply the acquired knowledge to understand global environment, emerging issues in the world trade.
- CO4:** Students will be able to compare the economies of the countries, their strengths & weaknesses and strategic issues.
- CO5:** Students will be able to select and defend the different strategies which they adopt in the given situations.
- CO6:** Students will be able to construct and design the strategies independently according to the environmental factors and strength of company as a part of global strategic management.

Course Contents:**UNIT – I**

Introduction: Definition, Phases of global strategy, Difference between international strategy and global strategy, Drivers of global strategy, CSR Strategies.

UNIT – II

Global Strategic Analysis: External macro environment – PEST analysis, Diamond model, Industry environment – Five force model, phases of international product life cycle, Analysis of internal environment – analyzing firm resources and capabilities, global value chains and value systems, comparative analysis.

UNIT – III

Global strategic Development: Managing the internationalization process, international strategic alliances through partnership and cooperation, strategy at subsidiary level, headquarter level strategy.

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UNIT - IV


Global strategic Implementation: Global structures and designs, managing change in global context, global management of innovation and knowledge, Global R&D Networks.

Suggested Readings:

1. Dunning, J.H., Explaining *International Production*, Harper Collins.
2. Garpand. J. and Farmer, R. N., *International Permissions of Business Policy and Strategy*, Kent Publishing Co.
3. Ansoff, H. I. *Corporate Strategy*, McGraw Hill.
4. Porter, M. E., *Competitive Strategy*, Free Press.
5. Frynas, J.G. and Mellahi, K., *Global Strategic Management*, Oxford University Press.

Important Instructions for the Course Coordinator and the Examiner:

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IB-405

CROSS CULTURAL AND GLOBAL MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to develop a diagnostic and conceptual understanding of the cultural and related behavioral variables in the management of global organizations.*

Course Outcomes:

- CO1:** Students will be able to recall different terms used in cross-cultural management.
- CO2:** Students will be able to explain conceptual framework of cross-cultural management.
- CO3:** Students will be able to demonstrate the process of global management.
- CO4:** Students will be able to examine cultural aspects in global management.
- CO5:** Students will be able to evaluate practical solutions of problems in cross-cultural management.
- CO6:** Students will be able to develop his own model of cross cultural and global management.

Course Contents:**UNIT - I**

Human and Cultural Variables in Global Organizations; Cross Cultural Differences and Managerial Implications, Complexities of international firms, staffing policy, Process of recruitment and training.

UNIT - II

Cross Cultural Research Methodologies and Hofstede's Study, Structural evolution of Global Organizations; Cross Cultural Leadership and Decision Making.

UNIT - III

Cross Cultural Communication and Negotiation, Human Resource Management in Global Organizations, Management of industrial relations.

UNIT - IV

Ethics and social responsibility in international business, Western and Eastern Management thoughts in the Indian Context, Management of cultural diversity

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Suggested Readings:

1. Adler, N J., *International Dimensions of Organizational Behaviour*, Kent Publishing.
2. Bartlett, C and Ghoshal, S., *Transnational Management: Text, Cases and Readings in Cross Border Management*, Irwin.
3. Dowling, P J., *International Dimensions of Human Resource Management*, Wadsworth.
4. Hofstede, G., *Cultures Consequence: International Differences in Work Related Values*, Sage.
5. Marcie, D and Puffer, M., *Management International: Cases, Exercises and Readings*, West Publishing.
6. Mead, R., *International Management: Cross Cultural Dimensions*, Blackwell, Camb., Mass.
7. Mendenhall, M., *Global Management*, Massachusetts, Blackwell.

Important Instructions for the Course Coordinator and the Examiner:

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IB-406

INTERNATIONAL TRADE LAWS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of this course is to develop a diagnostic and conceptual understanding and implications of legal framework of international business.*

Course Outcomes:

- CO1:** Students will be able to describe the regulatory framework of International Trade Laws vis-à-vis WTO and International Business Treaties
- CO2:** Students will be able to discuss basic legal knowledge to International Trade Laws, International Sales Agreement and International Trade Enforcement
- CO3:** Students will be able to interpret the international regulatory framework relating to business and commerce.
- CO4:** Students will be able to examine the Indian laws and regulations governing international business and international taxation assessment.
- CO5:** Students will be able to judge the international commercial arbitrations and settlements relating to international trade laws.
- CO6:** Students will be able to develop the analytical ability to comprehend the international trade laws relating to WTO and Foreign Investment Practices.

Course Contents:**UNIT-I**

Legal Framework of International Business: Nature and complexities; Major laws and their implications to business; International business contract- legal provisions; Payment terms; International sales agreements; Rights and duties of agents and distributors; Contract of Affreightment (carriage of goods by sea, air and overland).

UNIT-II

Enforcement and Settlement: Enforcement of contracts and dispute settlement; International commercial arbitration. Regulatory Framework of WTO: Basic principles and charter of WTO; Provisions of WTO relating to preferential treatment of developing countries, custom valuation and dispute settlement; Implications of GATS, TRIPs and TRIMs.

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UNIT-III

Regulations and Treaties relating to Technology Transfer: Licensing; Franchising, joint ventures, patents and trademarks; Regulatory framework relating to commerce.

UNIT-IV

Indian laws and regulations governing international transactions; Taxation of foreign income; Foreign investments; setting up offices and branches abroad.

Suggested Readings:

1. Daniels, John, Ernest W. Ogram and Lee H. Redebungh: *International Business. Environments and operations*
2. GATT/WTO, various publications.
3. Journal of World Trade Law.
4. Kapoor ND; *Commercial Law*; Sultan Chand & Co., New Delhi.
5. Lew, Julton D. M. and Clive Standbrook: (eds.), *International Trade Law and Practice*, Euromoney Publications, London.
6. *Ministry of Commerce, (Govt. of India) Handbook of Import- Export Procedures.*
7. Motiwal OP, Awasthi HIC: *International Trade –the law and practice*; Bhowmik and Company, New Delhi.
8. Patrick, H., *International Business Agreements*, Gower Publishing Co. Pvt.
9. Rao, S., *Joint Ventures*, Vikas Publication, New Delhi
10. Schmothoff C.R., *Export Trade- The Law and Practice of International Trade*

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IB-407 INTEGRATED MARKETING COMMUNICATION STRATEGY**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The aim of this paper is to acquaint the students with the concepts, techniques and developing skills regarding application of effective advertising programmes.*

Course Outcomes:

- CO1:** Students will be able to define various terms associated with the field of integrated marketing communication.
- CO2:** Students will be able to explain the components of integrated marketing communication.
- CO3:** Students will be able to interpret the impact of business environmental factors on the marketing communication strategy.
- CO4:** Students will be able to distinguish the utility of various promotional tools.
- CO5:** Students will be able to evaluate the effectiveness of marketing communication strategy.
- CO6:** Students will be able to develop a marketing communication strategy.

Course Contents:**UNIT-I**

The growth of advertising and promotion; the evolution of IMC and a contemporary perspective, Promotional Mix: a tool for IMC, Analysis of the communication process, Role of IMC in the marketing process, Developing Marketing Planning Programme, Role of Advertising and Promotion.

UNIT-II

Participants in the IMC process: The clients Role, Role of advertising agencies, Types of Ad agencies, Agency compensation, evaluating agencies; An Overview of Consumer Behavior: Consumer decision-making process, Environmental influences on consumer behavior, Alternate approaches to consumer behavior

UNIT-III

Analyzing the communication process: A basic model of Communication, cognitive response approach, elaboration likelihood model; Source message and channel factors; Objectives and budgeting for IMC programmes: Establishing objectives and budgeting for promotional programmes; DAGMAR: An approach to setting objectives, problems in setting objectives, Establishing and allocating the promotional budget; Developing the IMC programme: Creative Strategy: Planning & development, Implementation and evaluation.

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UNIT-IV

Media planning and Strategy: Developing the media plan, Establishing media objectives, Developing and implementing media strategies, Evaluation and follow-up; Evaluation of media: television & Radio, Evaluation of Print Media: Support Media, Direct Marketing, Direct Selling, The internet and interactive media, sales promotion, public relation, publicity and corporate advertising. Measure the effectiveness of the promotional programme. International advertising and promotion, regulation of advertising and promotion, evaluating the social, ethical and economic aspects of advertising and promotion

Suggested Readings:

1. Blakeman, R. *Integrated Marketing Communication: Creative Strategy from Idea to Implementation*, Rowman & Littlefield
2. Dutta, K., *Integrated Marketing Communication*, Oxford Higher Education
3. Belch, G. E., Belch, M. A. and Purani, K., *Advertising and Promotion*, McGraw Hill Education.
4. Batra, R., Myers, J. G. and Aaker, A.D. *Advertising Management*, Pearson Education
5. Percy, L. and Elliot, R., *Strategic Advertising Management*, Oxford publishing
6. Sissors, J. Z. and Baron, R.B. *Advertising Media Planning*, McGraw Hill.
7. Jethwaney, J. and Jain, S., *Advertising Management*, Oxford publishing

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PRODUCTION AND OPERATIONS MANAGEMENT AREA


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Hisar-125004 (Haryana)**

THIRD SEMESTER

POM-301

PURCHASE AND MATERIALS MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The key objective of this course is to acquaint students with Decision-making for effective and efficient purchase, storage and flow of materials in manufacturing and service organizations: Cost-reduction techniques in Pre-Purchase, Purchase and Post-Purchase systems: Modern material planning and delivery systems like MRP and JIT and Material handling and logistics systems.*

Course Outcomes:

- CO1:** Students will be able to describe various concepts of Purchasing and Materials Management.
- CO2:** Students will be able to explain the purchase procedure for placing purchase orders for different categories of the materials.
- CO3:** Students will be able to use the tools and techniques for addressing the cost related aspects of purchase and materials management.
- CO4:** Students will be able to examine the overall utility of purchase and material management techniques in relation to the overall objectives of the manufacturing organisations.
- CO5:** Students will be able to argue various factors influencing Make or Buy decisions.
- CO6:** Students will be able to formulate the problems based on his understanding on purchase and material management

Course Contents:**UNIT-I**

Role of Purchasing and Materials Management - Objectives, Organization and Interrelationships, Determination and Description of Material Quantity, MRP and JIT

UNIT-II

Determination and Description of Material Quality - Receiving and Incoming Quality Inspection, Acceptance Sampling Plans, Vendor-Process Capability

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UNIT-III

Cost-Reduction Techniques - Standardization, Simplification & Variety Reduction; Value Analysis and Engineering, Make or Buy Decisions, Source of Supply, Price Determination and Negotiation, Vendor Rating, Selection and Development, Legal Aspects of Purchasing, Public Purchasing and Tendering; International Purchasing - Procedures and Documentation.

UNIT-IV

Purchasing of Capital Equipment - Appraisal Methods, Evaluating Suppliers' Efficiency, Stores Layout, Classification and Codification; Material Logistics Warehousing Management, Material Handling, disposal of Scrap, Surplus and Obsolete Materials.

Suggested Readings:

1. Ansari A & Murderess B., *JIT Purchasing*, Free Press.
2. Baily P. et al, *Purchasing Principles and Management*. Pitman.
3. Burt, David N., *Proactive Procurement*, Englewood Cliffs, Prentice Hall Inc.
4. Dobler, D W. et al, *Purchasing and Materials Management*,. McGraw Hill.
5. Dutta, A K., *Integrated Materials Management*, PHI Learning.
6. Farrington B and Waters, Derek W., *Managing Purchasing*, Chapman & Hall.
7. Gopalakrishnan P & Sunderashan M., *Handbook of Materials Management*, Prentice Hall of India.

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POM-302

TOTAL QUALITY MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The objective of this course is to acquaint students with the basic concept of Total Quality (TQ) from design assurance to service assurance; to give emphasis on International Quality Certification Systems - ISO 9000 and other standards and their applicability in design manufacturing quality control and services.*

Course Outcomes:

- CO1: Students will be able to state the tools and techniques of Total Quality Management.
- CO2: Students will be able to describe the philosophy and significance of TQM for organisations in their endeavour for continuous improvement.
- CO3: Students will be able to choose the quality related problems of the organisations.
- CO4: Students will be able to examine the importance of continuous improvement in process for maximising customer's satisfaction and employees' involvement.
- CO5: Students will be able to evaluate various factors influencing total quality management.
- CO6: Students will be able to formulate the real-life problems based on his understanding on total quality management.

Course Contents:**UNIT-I**

Introduction to TQM : History, Aims, Objectives, Benefits, Gurus and their principles, TQM process and phases of a typical implementation of TQM; Reasons for use of TQM, proven examples and benefits, methods to assist the progress of TQM; Introduction to Tools and Techniques : Brainstorming, Affinity Diagram, Benchmarking, Fishbone Diagram, Check Sheet, Flow Chart, Line Graph, Run Chart, Histogram, Pareto Diagram, FMEA, Scatter Diagram, Control Chart, QFD, Tree Diagram, Force Field Analysis, Seven W and is/is-not questions, Why-Why diagrams; Total Quality Control, Quality Assurance : Practices and Techniques, TQM and Management : New Management challenges, trends and contribution of TQM.

UNIT-II

Customer Focus : Defining external and internal customers, steps in customer analysis, methods of getting customer inputs, methods of measuring customer satisfaction; Continuous Improvement Process : What is continuous improvement, the importance of continuous improvement, and principles of continuous improvement, processes, how to manage processes, role of TQM's control and improvement process; Designing for Quality : Opportunities for improvement in product

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design, early warning, concept and design assurance, designing for basic functional requirements, reliability, availability, safety, manufacturability, cost and product performance; Workforce Teams : Team work for quality, types of teams and tasks involved, characteristics of successful and unsuccessful teams, barriers to team work; Benchmarking : Definition, importance and benefits, types, basic steps, pitfalls; JIT : Definitions, benefits, JIT cause and effects, JIT implementation in manufacturing.

UNIT-III

TQM for Marketing Function: Quality in marketing and sales, Factors for excellence; BPR and IT: Business Process Management; Quality Control SQC/SPC: Statistical Process Control; Change Management; Technology and Product Quality: Quality of after Sales Services: Quality measurement in customer service.

UNIT-IV

Organization for Quality : Quality Circles, Self managing teams, Quality Director, Reliability of Quality Characteristics; Quality Leadership : Developing a quality culture, Technology and Culture, Motivation Quality Linked Productivity; Total Employee Involvement : Awareness of quality, Recognition and rewards, Empowerment and self-development, Education and training; Cost of Quality : Cost of poor quality, Categories of quality cost, Analysis of quality costs, benefits of costs of quality control; Supporting Technologies : Overview of Supplier Quality Assurance System.

Suggested Readings:

1. Bharat Wakhlu, *Total Quality-Excellence through Organisation wide Transformation* Wheeler Publishing.
2. Bagchit, T.I.P. ISO, ISO 9000 Concepts, Methods and Implementation, Wheeler Publishing.
3. Samuel, KIILO. TQM Integrated Approach, Kogan Page Limited

Important Instructions for the Course Coordinator and the Examiner:

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BISA

POM-303

SUPPLY CHAIN MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The course is designed to explain basic theory and techniques of Supply Chain Management to examine the issues and problems associated with Supply Chain in changing business environment and to show how Supply Chain can improve an enterprises effectiveness and competitiveness.*

Course Outcomes:

- CO1: Students will be able to state the key concepts of Supply Chain Management.
- CO2: Students will be able to describe the activities and functions of elements of supply chain.
- CO3: Students will be able to apply the integration among Supply Chain Partners.
- CO4: Students will be able to determine the role of technology in Supply Chain Management
- CO5: Students will be able to evaluate the effectiveness of Supply Chain
- CO6: Students will be able to formulate the real-life problems based on his understanding on supply chain management.

Course Contents:

UNIT-I

Logistics Management: Origin and Definition – Types of Logistics – Logistics Management – Ware House Management – Automation and Outsourcing – Customer Service and Logistics Management – A Perspective – Concepts in Logistics and Physical Distribution – Distribution and Inventory

UNIT-II

Types of Inventory Control - Demand Forecasting - Warehousing and Stores Management – Routing - Transportation Management - Some Commercial Aspects in Distribution Management – Codification - Distribution Channel Management - Distribution Resource Planning (DRP) - Logistics in 21st Century

UNIT-III

Supply Chain Management: Introduction and Development- Nature and Concept - Importance of Supply Chain - Value Chain - Components of Supply Chain - The Need for Supply Chain - Understanding the Supply Chain Management - Participants in Supply Chain – Global Applications

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Haryana-122001 (Haryana)

UNIT-IV

Role of a Manager in Supply Chain - Supply Chain Performance Drivers - Key Enablers in Supply Chain Improvement - Inter-relation between Enablers and Levels of Supply Chain Improvement- Systems and Values of Supply Chain

Suggested Readings:

1. Jeremy F. Shapiro, *Modeling the Supply Chain*, Duxbury Thomson Learning.
2. David Simchi Levi, Philip Kaminsky, and Edith Simchi Levi., *Designing and Managing the Supply Chain: Concepts, Strategies, and Case Studies*, Irwin McGraw Hill.
3. Sridhar Tayur, Ram Ganeshan & Michael Magazine (editors), *Quantitative Models for Supply Chain Management*, Kluwer Academic Publishers.
4. Handfield R.B. & Nichols, Jr. E. L., *Introduction to Supply Chain Management*, Prentice Hall.
5. BaHu, Renaid H., *Business Logistics Management*, Englewood Cliffs, Prentice Hall Inc.
6. Chrispopher, M., *Logistics and Supply Chain Management: Strategies for Reducing Costs and Improving Services*, Pitsman.
7. Coyle, Bardi, Longley, *The management of Business Logistics – A supply Chain Perspective*, Thomson Press.

Important Instructions for the Course Coordinator and the Examiner:

- The list of cases and specific references including recent articles will be announced in the class at the time of launching of the course by the Course Coordinator.
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Registrar

Dr. Jaishankar Chavhan
Sci. & Tech. Officer
HISA-120001

POM-304

SERVICE OPERATIONS MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *The key objective of this course is to acquaint the students with decision making in planning, design, delivery, quality and scheduling of service operations. The candidates are also expected to appreciate the role of service quality and operations in emerging services economy of India.*

Course Outcomes:

CO1: Students will be able to state the Nature and Characteristics of Services.

CO2: Students will be able to describe the elements of services design.

CO3: Students will be able to illustrate the service blueprinting for mapping variety of real life service processes

CO4: Students will be able to appraise the role of alternate locations and sites for variety of services.

CO5: Students will be able to judge the service orientation at variety of service facilities/ organizations.

CO6: Students will be able to develop the real-life problems based on his understanding on service operations management.

Course Contents:

UNIT-I

Matrix of Service Characteristics; Challenges in Operations Management of Services; Aggregate Capacity Planning for Services; Facility Location and layout for Services

UNIT-II

Job Design – Safety and Physical Environment; Effect of Automation; Operations Standards and Work Measurement;

UNIT-III

Measurement and Control of Quality of Services; Dynamics of Service Deliver) System; Scheduling for Services Personnel and Vehicles; Waiting - Line analysis;

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UNIT-IV

Distribution of Services; Product-Support Services; Maintenance of Services; Inventory Control for Services: Case Studies on Professional Services.

Suggested Readings:

1. Bowman David E. et al., *Service Management Effectiveness: Balancing Strategy, Organization and Human Resources, Operations and Marketing*, Jossey Bass.
2. Collier David A., *Service Management Operating Decisions*. Englewood Cliffs, Prentice Hall Inc.
3. Fitzsimmons, James A and Sullivan, Robert S., *Service Operations Management...* McGraw Hill.
4. Heskett, James L. et al., *Service Breakthroughs - Changing the Rules of the Game*, Free Press.
5. Murdiek, R G. et al., *Service Operations Management*, Allyn and Bacon.
6. Sharma, J K., *Service Operations Management*, Anmol Publications.
7. Voss, C. et al., *Operations Management in Service Industries and the Public Sector*, Chichester, Wiley.

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Dr. J. S. J. University of

School of Management

Dr. J. S. J. University of

POM-305

TECHNOLOGY MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objectives: *The course focuses on different matters of significance related to Technology Management. It aims to make students understand various aspects of technological innovation and subsequent diffusion. It also analyses the Technology Management scenario in India.*

Course Outcomes:

- CO1: Students will be able to indicate the concepts of Technology Management.
- CO2: Students will be able to explain the strategic nature of Technology Management.
- CO3: Students will be able to illustrate the tools and techniques for forecasting the technology needs of the business organisations.
- CO4: Students will be able to examine the dynamic nature of management of technology and its related issues.
- CO5: Students will be able to appraise various factors influencing technology management.
- CO6: Students will be able to develop the real-life problems based on his understanding on technology management.

Course Contents:

UNIT I

Introduction: Definition and Characteristics of Technology, Market Based and Resource Based view, Concept and significance of management of technology, Dynamics of Technological Change: Forms of technological change, Process of Technological Change; Innovation: Components of Innovation, Innovation Dynamics at the Firm Level, recent developments in Technological environment - Globalization, Time Compression, Technology integration, Induced & Autonomous changes in the Technological environment, Competitive advantages through new technologies.

UNIT II

Technology supply and Research & Development Management: Sources of technology, Process of new product development; managing hi-tech products: Strategy to avoid product failure in market. Principles and Process of Product Development; Managing R& D Organization –issues and recent trends, Linkage between technology, development and competition, management of Intellectual Property Rights in context of technology management, strategic issues in managing IPR

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UNIT III

Technological Forecasting: Meaning, significance of Technology forecasting, techniques of Technology forecasting: Exploratory and normative technique; Process and application of techniques like Delphi, Growth Curves, S- curve, Pearl Curve, Gompertz curve : Relevance Tree, Morphological Analysis, Mission Flow Diagram

UNIT IV

Meaning and Importance of Technology Intelligence; Technology Strategy: Meaning and Key Principles Underlying Technology Strategy, framework for formulating technology strategy Technology Strategy Types; Linkage of technology strategy with business strategy, Issues in technology strategy

Suggested Readings:

1. Narayanan, V. K., *Managing Technology and Innovation for Competitive Advantage*, Pearson Education.
2. Khalli, T., *Management of Technology*, McGraw-Hill
3. Betz. F., *Strategic Technology Management*, McGraw-Hill
4. Lowell W. S., *Managing Technology – The Strategic View*, McGraw Hill.
5. Schilling *Strategic Management of Technological Innovation*, McGraw-Hill

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Hisar (200001 Haryana)

FOURTH SEMESTER

POM-401

OPERATIONS RESEARCH**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The Course is designed to introduce the students to the principles of operations research techniques and their applications in decision making. Students will also be required to use computer packages for data processing purposes.*

Course Outcomes:

- CO1: Students will be able to define the basic concepts of Operations Research.
- CO2: Students will be able to explain the usefulness of its tools and techniques in solving the business problems related to allocation of the scarce resources.
- CO3: Students will be able to solve the problems of optimising the given objectives subject to constraints.
- CO4: Students will be able to examine the alternatives in a decision-making environment.
- CO5: Students will be able to appraise the models describing the industry related problems
- CO6: Students will be able to formulate the real-life problems based on his understanding on operations research.

Course Contents:**UNIT -I**

Introduction to Operations Research and Modeling Linear Programming: Formulation, Solution Methodologies, Simplex Method, Two Phase Method, Dual Simplex Method and Modified Simplex Method. Duality Theory Post Optimal Analysis of LP models, Parametric Linear programming.

UNIT -II

Transportation models, Transshipment models and Assignment Models; Integer Programming: formulations, Cutting Plane method, Branch and Bound Algorithm, Additive algorithm for Zero one programming

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UNIT –III

Dynamic Programming: Stages, states, Principle of Optimality, recursive relationship. Capital Allocation model, Knap sack Model, Traveling salesmen's model and other related model
Decision Theory: Decision under Certainty, Risk and Uncertainty,

UNIT –IV


Game Theory: Two-Person Zero Sum Game, graphical method, Linear-programming formulation of Game Queuing theory: characteristics, Single server and multi-server models, Self-service system, Finite Population Network models: Minimum spanning tree, shortest path model, Maximal Flow Introduction to Goal Programming.

Suggested Readings:

1. Ahuja A K. et al., *Network Flows*, Englewood Cliffs, Prentice Hall Inc.
2. Gould, F J. et al., *Introduction to Management Science*, Englewood Cliffs, Prentice Hall Inc.
3. Gupta, M P. & Sharma J K., *Operations Research for Management*, National Publishing House
4. Taha Hamby A., *Operations Research: An Introduction*, Macmillian.
5. Mathur, K & Solow D., *Management Science*, Englewood Cliffs, Prentice Hall Inc.
6. Shamla, S. J K., *Operations Research: Theory and Applications*, Macmillian
7. Srinath, L S., *Operations Research for Executive*, East West Press.
6. Paneerselvan, R. *Operations Research*, , Prentice Hall of India.
7. Hamdy A. Taha, *Operations Research - an Introduction*, Prentice Hall of India.

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M.M:70

Course Outcomes:

CO6: Students will be able to design the real-life problems based on his understanding on goal programming.

Course Contents:

UNIT-I

System characterization: Identification of objectives, design variables, constraints, subsystems
System-level coupling and interactions Examples of MSDO in practice Visualization techniques
in design optimization Subsystem model development: Model partitioning and decomposition,
interface control Collaborative Optimization, Bi-Level Formulations Subsystem model selection:
fidelity versus expense Model and simulation development and validation

UNIT-II

Optimization and exploration techniques: Review of linear and nonlinear programming, Heuristic techniques; genetic algorithms simulated annealing, Tabu search Design Space Exploration: Design of Experiments (DOE): Full factorial search, parameter study, Taguchi/orthogonal arrays, latin hypercubes, Mixed integer programming (application to hub spoke / network problems) Sensitivity and post-optimality analysis

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UNIT-III

Multi objective optimization: Weighted sum optimization Weak and strong dominance Pareto front computation, Goal programming and ISO performance, Physical Programming, Multi attribute Utility Theory, Introduction to robust design Monte-Carlo Sampling Design under uncertainty Reliability analysis, Taguchi methods

UNIT-IV


System assessment and extensions: What is optimality? Design for value: including lifecycle costing Optimizing product families and platforms Implementation issues: Model reduction Approximation techniques: response surfaces, kriging, neural networks, Concurrent design

Suggested Readings:

1. Cook, Thomas M & Rursell, Robert A., *Introduction to management Science*,
2. Englewood Cliffs, Prentice Hall Inc.
3. Eppen, G D. et al, *Quantitative Concepts for Management Englewood Cliffs*, Prentice
4. Hall Inc.
5. Ignizio, J P., *Goal Programming and Extensions*, Lexington Books
6. Llier, Y., *Management Goals and Accounting for Control*. Amsterdam, North Holland
7. Lee S M., *Goal Programming for Decision Analysis*. Philadelphia. Auerbach

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POM-403

TRANSPORTATION MANAGEMENT**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The objective of the course is to acquaint the students with the problem faced in planning policy and executing the transportation system.*

Course Outcomes:

CO1: Students will be able to state the basic concepts of Transportation Management.

CO2: Students will be able to discuss the Elements of Transportation Management.

CO3: Students will be able to explain the significance of transport in global economy

CO4: Students will be able to appraise the forecasting models to estimate the transport infrastructure.

CO5: Students will be able to argue different modes of transport.

CO6: Students will be able to design the real-life problems based on his understanding on transport management.

Course Contents:**UNIT-I**

Growth of Urbanization and Problems of Transportation: Transport- Challenges and Limitations; Government Activities in Transportation; Functions of Transport Accessibility/Connectivity, Mobility Inter relations of Transport, Economic cost and trade, Geography and technology, Social, cultural and recreational development of Information & Communication Technology

UNIT-II

Transportation Systems - Planning, Operation and Management Trip Generation and Distribution: Load Planning: Transportation Modes and their Selection; Land Use theory; Physical Theories, Economic Theories Utility Maximization; Choice Theory, Logit Model, Gravity Model, Generalized Cost; Elements of Traffic Flow, Generalized Car Following Theory, Green shields Theory

UNIT-III

Early transport & trade, Development of Sea ports, canal transport and the railways, Road building and motorization, Development of airports and air transport; Transport Networks, Features of networks – nodes and links, Multimodalism and choice in transport, Supply chain, Inter modalism, Transport Infrastructure

UNIT-IV

Sequential Travel Demand Forecasting Models: Future Developments in Transportation; Motor Vehicle Act 1988 and its Impact on Urban Transport System: Emission Norms.

Suggested Readings:

1. Baerwal, J E., *Transportation and Traffic engineering Handbook*. Englewood Cliffs, Prentice Hall Inc
2. Bell, G. et al., *The Business of Transport*. Plymouth, McDonald and Evans.
3. Dickey, J W., *Metropolitan Transportation Planning*, Tata McGraw Hill.
4. Grey, G E. and Hole, L A., *Public Transportation Planning: Operations and Management*; Englewood Cliffs, Prentice Hall Inc
5. Gupta, M P., *Metropolitan Transportation System*, National.
6. Papacostas. C S., *Fundamentals of Transportation Engineering*. Englewood Cliffs, Prentice Hall Inc

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WORLD CLASS MANUFACTURING

M.M:70

Course Outcomes:

CO6: Students will be able to develop the real-life problems based on his understanding on world-class manufacturing.

Course Contents:

UNIT-I

World Class Manufacturing Environment: Imperatives for success - Technology, Systems approach and change in the mindset. Strategic decisions in Manufacturing Management:

UNIT-II

Choice of Technology, Capacity Layout / Automation in Material handling systems; Implementation Problems/Indian experience; Optimized Production; Just - in - Time System: JIT Manufacturing System, JIT Pull system Chain Management/Bench Marketing;

UNIT-III

Total Quality Management - TQM Philosophy, TQM Principles, TQM tools including Circles, SQC / Acceptance Samplings, Quality through design, QFD - Quality House, Failure Mode effect analysis, Fault - tree analysis, Concurrent Engineering Principles Taguchis quality loss function, and Robust Design concept, Designing products through 'Fuzzy' Logic,

UNIT-IV

Quality Management Systems and ISO Standards; Total Productive Maintenance, Objective of TPM - Total System effectiveness, Role of IT in World Class Manufacturing, Flexible Manufacturing Systems (FMS), Six Sigma.

Suggested Readings:

1. Buffa, Elwood et. al, Programmed learning at for Production and Operations
2. Management Illinois, Learning System Co.
3. Dervitsiotis, Kostas N, Operations Management, McGraw Hill.
4. Hughes, Chris, Productions and Operations Management, Pan Books.
5. Schonberger, Richard J., *Japanese Manufacturing Techniques*.

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GGSAT-125001 (Haryana)

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POM-405 WAREHOUSE MANAGEMENT AND INVENTORY CONTROL

Time Allowed: 3 Hours

M.M:70

Course Objectives: *This course aims to make students understand the prerequisites for decision making regarding warehouse management and inventory control and to analyze the implications of these decisions*

Course Outcomes:

CO1: Students will be able to state the activities of warehousing management.

CO2: Students will be able to discuss the related aspects of warehousing management and decisions.

CO3: Students will be able to illustrate the inventory control systems.

CO4: Students will be able to examine the concepts of JIT.

CO5: Students will be able to evaluate various factors influencing warehousing and inventory control in the business organizations.

CO6: Students will be able to design the real-life problems based on his understanding on warehousing and inventory control.

Course Contents:

UNIT I

Warehouse management: Meaning and significance; Warehouse Organization: Requisitions and Replenishment of Materials, Receipt and Inspection of Materials, Issue of Materials, Stocktaking, Discrepancies and Their Resolution, Control of Tools, Surplus, and Scrap Materials, Storage and Handling Practices of Materials

UNIT II

Computerization of Warehouse Activities, Performance Evaluation of Stores Activities, ISO Standards and Warehouse Activities, Warehouse Location, Layout, and Facilities Planning, Warehouse Security, Safety, and Maintenance

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UNIT III

Inventory Management: Inventory concepts, Pressures for Low Inventory, Pressures for High Inventory, Types of inventory – seasonal, decoupling, cyclic, pipeline, Safety stock; Inventory costs; Inventory Control systems: Issues in the P and Q systems of inventory control; The Basic Economic Order Quantity Model, Production Quantity Model, Quantity Discounts, Reorder Point, Safety Stocks, Service Level, Order quantity for periodic inventory system, Order quantity with variable demand

UNIT IV

Just-In-Time: Principles of just-in-time, Core logic of JIT, Main features for stocks, Achieving just-in-time operations, and other effects of JIT, Benefits and disadvantages of JIT, Comparison with other methods of inventory management. KANBAN as a control tool. Vendor managed inventory; Make or Buy Decisions: Factors influencing Make Or Buy Decisions-cost, quality, capacity core v/s noncore, management strategy. Evaluation of performance of Materials function: cost, delivery, quality, inventory turnover ratio methodology of evaluation, Use of ratios and analysis like FSN: Fast slow, Nonmoving, HML-High Medium, Low, XYZ. Materials Management in JIT Environment

Suggested Readings:

1. Saxena, J.P., *Warehouse Management and Inventory Control*, Vikas Publication
2. Bose, C., *Inventory Management*, PHI
3. Mahadevan, B., *Operations Management: Theory and Practice*, Pearson

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POM-406

PROJECT MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *To train the scientist and managers in the practical application and modern tools and techniques of planning, scheduling, monitoring and control of multiple projects.*

Course Outcomes:

- CO1: Students will be able to define the concepts of Project Management.
- CO2: Students will be able to explain the feasibility issues of the large scale projects.
- CO3: Students will be able to illustrate the types of arrangement in managing the projects.
- CO4: Students will be able to examine the financial aspects of the project management.
- CO5: Students will be able to evaluate various factors influencing project management in the business organizations.
- CO6: Students will be able to develop the real-life problems based on his understanding on project management.

Course Contents:

UNIT-I

Structuring Projects: Project Finance vis-à-vis Corporate Finance; Designing new hybrid financing structure incorporating elements of both project and corporate finance in an attempt to solve disadvantages associated with each structure, Project entity as special purpose vehicle with contractual bundling.

UNIT-II

Valuing Projects: Large Scale Projects: Basic economics; complexity in estimating demand; Marketing feasibility study; role of government, both as investor and as a customer. Project Evaluation in Emerging Markets: Developing Project Cash Flows & Multiple Discount Rates- Estimation of Cost of Capital and Complexities of valuation in emerging markets, Financial Modeling,

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UNIT-III

Managing Risky Projects: Build, Operate and Transfer (BOT) Arrangements: Deal structuring and major risks identification, assessment and mitigation in such a way that senior lenders are adequately protected without further equity support. BOOT, BOT, BOLT and BOO framework, Contract design and negotiation. Project Evaluation in Emerging Markets: Political risk management through project selection, structuring & insurance & contrast this approach with the older financial style of political risk management

UNIT-IV

Financing Projects: Process, Participants and Economics of Syndicated Lending: Key issues in designing the Syndication strategy; the lending process from a bank's perspective, and the difference between making a loan and arranging/underwriting/distributing a loan (syndication). Credit Enhancements Instruments to improve access to international bond markets, such as bank guarantee instruments, Export Credit Agency programme and political risk insurance.

Suggested Readings:

1. Chaoudhury, Sadhan, *Project Scheduling and Monitoring in Practice*, South Asian Pub.
2. Harriossn, F L., *Advanced Project Management*, Gower.
3. Lockyer, K.G., *An Introduction to Critical Path Analysis*, Ptiman Books.
4. Martino, R.L., *Project Management and Control; Finding the Critical Path; Applied Operational Planning: Allocating and Scheduling Resources*, American Management Association.
5. Meredith, Jaek R. and Mantel, Samuel J., *Project Management: A Manageria*

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INFORMATION TECHNOLOGY MANAGEMENT AREA

THIRD SEMESTER

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ITM-301

E-COMMERCE APPLICATIONS

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for E-commerce and developing application skills for the same.*

Course Outcomes:

- CO1: Students will be able to describe the foundation and importance of E -Commerce
- CO2: Students will be able to explain retailing in E-Commerce b analysing customer assets management and determining the effectiveness of market research
- CO3: Students will be able to illustrate the feature of internet, intranet, extranet and explain how they relate to each other.
- CO4: Students will be able to compare the different electronic payment system
- CO5: Students will be able to select the infrastructure for E-Commerce.
- CO6: Students will be able to create business model and strategy for online business

Course Contents:

UNIT- I

Technology and Infrastructure for E-Commerce: Framework of E-commerce; Network Infrastructure for E-Commerce – Market Forces Influencing I-way, Network Access Equipment, Public Policy Issues Shaping the I-way; EDI - Applications in Business, Legal, Security and Privacy Issues of EDI; Components of EDI Standards, ASC X12 and EDIFACT.

UNIT-II

E-Commerce and Retailing: Changing Retail Industry Dynamics, Mercantile Models from the Consumer's Perspective, Management Challenges in Online Retailing. Intranets and Customer Asset Management: Basics of Customer Asset Management, Online Sales Force, Online Customer Service and Support, Technology and Marketing Strategy.

UNIT-III

Intranets and Manufacturing: Integrated Logistics, Agile Manufacturing, Emerging Business Requirements, Manufacturing Information Systems, Intranet-based Manufacturing, Logistics Management. E-Commerce and Online Publishing: Why Online Publishing, Online Publishing approaches, Advertising and Online Publishing E-Commerce and Banking: Changing Dynamics in the Banking Industry, Home Banking Implementation Approaches, Management Issues in Online Banking.

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UNIT-IV

Intranets and Corporate Finance: An Introduction, Financial Systems, Financial Intranets, Software Modules in Financial Information Systems, Human Resource Management Systems, Size/Structure of Financial Software Market.

Lab: Each student is required to develop at least one application of e-commerce.

Suggested Readings:

1. Kalakota & Whinston, *Electronic Commerce: A Manager's Guide*, Pearson Education.
2. Greenstien & Vasarhelyi, *Electronic Commerce: Security, Risk Management and Control*, Tata McGraw Hill.
3. Joseph, *E-Commerce: An Indian Perspective*, Prentice Hall of India.
4. Turbon, et. al., *Electronic Commerce: A Managerial Perspective*, Pearson Education.

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Registrar

Paru Janeshwar University of
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BISAK-125001 (Harana)

ITM-302

INTERNET AND WEB DESIGNING

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for web-publishing and developing programming skills for the same.*

Course Outcomes:

CO1: Students will be able to describe the web, internet technologies and internet applications.

CO2: Students will be able to identify various security hazards on the internet and need of security measures.

CO3: Students will be able to choose the fundamental tools and technology for the web design.

CO4: Students will be able to compare different web designing languages.

CO5: Students will be able to evaluate designing rules in constructing web sites and web pages.

CO6: Students will be able to create a web page and identify its elements and attributes.

Course Contents:

UNIT-I

Introduction to WWW: Evolution and basic features of WWW, the concept of web-site and browsers, introduction to WWW servers.

File Transfer Protocol: Introduction to FTP, Business Applications of FTP, public domain software, types of FTP servers (including anonymous) FTP clients, common FTP commands, Telnet.

UNIT-II

Web-Browsers: Basic features, bookmarks, history progress indicators, customizing browsers, saving and printing web-pages and forms, saving web pages; Searching and downloading information from web-sites; Netscape communicator; Internet Explorer.

UNIT-III

Introduction to Web-Publishing technologies, Components of a web-site, applications of each components in business, features of a smart web site, process of planning for development of an effective web-site, Domain name selection; selecting host for web-site, maintaining a web-site, web-publishing tools.

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School of Education
HISAR-125001 India

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UNIT-IV

Internet: ISP, Search Engine, URL, DNS, Security, E-Mail, HTTP, HTML, Building a simple HTML document, Cookies, Tables, Frames, Links, XML adding Multi Media documents, Home Page.


Lab: Each student is required to develop at least one homepage.

Suggested Readings:

1. Douglas E. Comer, *Computer Network and Internet*, Pearson Education.
2. Comer, Douglas: *The Internet Book*, Prentice Hall.
3. Leon, Alexis and Mathews Leon: *Internet for Everyone-Leon*, TECH World.
4. Xavier: *World Wide Web Design with HTML*, Prentice Hall.
5. Molly, *Using HTML PHI Learning*.

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Registrar
Guru Jambhadr University of
Science & Technology
BISAK-125001 (Haryana)

ITM-303

RELATIONAL DATA BASE MANAGEMENT SYSTEMS**Time Allowed: 3 Hours****M.M:70**

Course Objective: *The students are to be provided basic understanding of the RDBMS and SQL and the skills to make use of these in business organizations.*

Course Outcomes:

- CO1: Students will be able to describe the elementary and advanced features of DBMS and RDBMS
- CO2: Students will be able to explain the conceptual frame works and definitions of specific terms that are integral to the RDBMS
- CO3: Students will be able to demonstrate clear concept about relational model of R-DBMS.
- CO4: Students will be able to examine techniques pertaining to database design practices.
- CO5: Students will be able to evaluate options to make informed decisions that meet data storage, processing and retrievals needs
- CO6: Students will be able to develop SQL queries to create, read update and delete relational database data

Course Contents:**UNIT-I**

RDBMS: Introduction – Database and DBMS Software, Three Layered Architecture, Advantages and Disadvantages of a Database, History Data Modeling-Object Oriented and Record Based models, E-R Model and E-R diagram Examples and Exercises.

UNIT-II

Hierarchical Model, Network Model and Relational Model; Normalisation techniques-First Normal Form Second Normal Form and the Third normal Form, Examples and Exercises,

UNIT-III

SQL:SQL Language-DML commands-Selection, Insert, Update, Delete retrieving data, summarizing data, adding data to the database, updating data to the database and deleting data. Simple queries-Use of WHERE, Arithmetic comparison and logical operators, ORDER BY, GROUP BY and Group Functions. Multi table queries, Sub-queries. Views DDL Commands-Table and View, Create, Alter, Drop Integrity Constraints; Transaction Processing-Commit, Rollback, Savepoint, LAB: SQL and MS Access.

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Siksha & Research

Hisar-125101

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UNIT-IV

E.F. Codd's 12 Rules for a relational Database; Database concepts-Transaction Management, Properties of a Transaction, Commit and Rollback, Concurrency, Locking, Access Control, Data Integrity, Integrity Constraints, Auditing, Backup and Recovery; Data Dictionary-System Catalogue Distributed Database and Distributed Data Access, Introduction to Client-Server and ODBC connectivity,


Lab: Each student is required to develop at least one Data Base System using Oracle.

Suggested Readings:

1. Elmasai & Narathe, *Fundamentals of Database Systems*, Addison-Wesley
2. Abraham Silberschatz, Henry F. Korth, S. Sudarshan, *Database System Concepts*, McGraw Hill
3. Bibin C. Desai, *An Introduction to Database systems*, Galgotia Publications.
4. C.J. Date, A. Kannan, S. Swamynathan, *An Introduction to Database Systems*, Pearson Education.
5. Loney Kevin, *Oracle: The Complete Reference*, McGraw Hill
6. Schneider Robert D & J. R. Garbus, *Optimizing SQL Server 7*, Prentice-Hall.

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Guru Jambheshwar University of
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Hisar-125001 (Haryana)

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ITM-304 E-BUSINESS INFORMATION SYSTEMS MANAGEMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for E-business information and developing systems skills for the same.*

Course Outcomes:

- CO1: Students will be able to describe the types of information systems supporting the major functional area of the business.
- CO2: Students will be able to identify the major management challenges to building and using information systems in organisation.
- CO3: Students will be able to illustrate types of information systems supporting the major functional areas of the business
- CO4: Students will be able to compare how enterprise systems and industrial network create new efficiency for business
- CO5: Students will be able to evaluate the role of information systems in today's competitive business environment.
- CO6: Students will be able to create model for determining the business value of information system

Course Contents:

UNIT-I

System Development Environment: Types of Information Systems; System Development Life Cycle; System Analyst – Role, Responsibility, Analytical Skills; Managing Information systems Project

UNIT-II

Information Systems Planning: Identifying and Selecting Systems Development Projects; Initiating and Planning Systems Development Projects.

UNIT-III

Information Systems Analysis: Determining System Requirements; Structuring System Process Requirements; Structuring System Logic Requirements; Structuring System Data Requirements.

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HISAK-125001 Jalandhar

UNIT-IV

Information Systems Implementation and Maintenance: System Implementation, Software Application Testing, Installation, Documenting the System, Training and Supporting Users, Organizational Issues in Systems Implementation; Maintaining Information Systems.


Lab: Each student is required to develop at least one information system.

Suggested Readings:

1. Hoffer, Jeffrey A., et al., *Modern Systems Analysis and Design*, Pearson Education.
2. Laudon Kenneth and Laudon Jane, *MIS-A Contemporary Perspective*, Prentice Hall.
3. O'Brien James A., *Management Information Systems*, Tata McGraw Hill.
4. Alter, Steven, *Information Systems: The Foundation of E-Business*, Pearson Education.
5. Kumar Muneesh, *Business Information Systems*, Vikas Publishing House.
6. Dewitz, Sandra D., *System Analysis and Design and the Transition to Objects*, McGraw-Hill.
7. Robertson James & Suzanne, *Complete System Analysis, Volume I & II*, Dorset House Publishing

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Science & Technology
Hisar-125001 (Haryana)

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ITM-305

ENTERPRISE RESOURCE PLANNING

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for ERP and its requisite applications.*

Course Outcomes:

- CO1:** Students will be able to describe the basic concept of ERP system for manufacturing or service companies.
- CO2:** Students will be able to classify different processes of the organisation and relationship among all processes.
- CO3:** Students will be able to demonstrate knowledge of CAD/CAM and ERP modules.
- CO4:** Students will be able to examine systematically the planning mechanism in an enterprise and identify all components in an ERP system and relationship between among the components.
- CO5:** Students will be able to judge the generic model of ERP and general ERP implementation methodology.
- CO6:** Students will be able to develop skills necessary for building and managing relationship with customer and stake holder

Course Contents:

UNIT-I

Introduction: Basic issues; evolution of ERP, advantages, pitfalls, overview of an enterprise; ERP and related technologies; Business process reengineering, management information system, decision support system, executive information system, data warehousing, data mining, supply chain management.

UNIT-II

Manufacturing perspective: CAD/CAM, material requirement planning (MRP-I), bill of material, manufacturing resource planning (MRP-II), distribution requirement planning, JIT approach.

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UNIT-III

ERP Modules: Introduction to ERP modules in Finance, Plant maintenance, quality management, materials management.

UNIT-IV

ERP Implementation: ERP lifecycle, vendors, consultants and users, ERP market, future directions in ERP.

Lab: Each student is required to develop at least one ERP-project.

Suggested Readings:

1. Leon A., *Enterprise Resource Planning*, Tata McGraw Hill.
2. Ellen Monk, Bret Wagner, *Concepts in Enterprise Resource Planning*, Cengage Learning.
3. Motiwalla, Thompson, *Enterprise Systems for Management*, Pearson Education.
4. Wallace and Kremzar, *ERP: Making it Happen – The Implementers' Guide to Success with Enterprise Resource Planning*, John Wiley & Sons, Inc.
5. Sadagopan, S., *ERP: A Managerial perspective*. Tata McGraw Hill.
6. Garg, V. K. & Venket Krishna N. K., *ERP Concepts and Practice*, PHI Publication.

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Hisar-125001 (Haryana)

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FOURTH SEMESTER

ITM-401

DATA WARE HOUSING AND DATA MINING

Time Allowed: 3 Hours

M.M:70

Course Objective: *Helps in making business decisions, and to this end, it provides business intelligence to the decision maker. And it is this analysis, which when performed on the warehouse database, helps companies get that edge over its competitors.*

Course Outcomes:

- CO1: Students will be able to describe different mythologies used in data mining and data warehousing.
- CO2: Students will be able to explain the analyzing techniques of various data.
- CO3: Students will be able to apply the association rules for mining the data.
- CO4: Students will be able to compare different approaches of data warehousing and data mining with various technologies.
- CO5: Students will be able to select appropriate classification techniques for data mining.
- CO6: Students will be able to develop the data houses and data warehouses.

Course Contents:

UNIT-I

Introduction: The Evolution of Data Warehousing the Data Warehouse A Brief History, Today's Development Environment; Principles of Data; Warehousing (Architecture and Design Techniques): Types of Data and their uses conceptual Data, Architecture, Design Techniques, Introduction to the Logical Architecture; Creating the Data Asset: Business Data Warehouse Design, Populating the Data Warehouse, Unlocking the Data Asset for End Users (The Use of Business Information).

UNIT-II

Designing Business Information Warehouse; Populating Business Information Warehouse, User Access to Information, Information, Data in Context. Data Mining Introduction: Motivation, Importance, data mining, kind of data, Functionalities, Interesting Patterns, Classification of data mining systems, Major issues; Data Warehouse and OLAP Technology for Data Mining: Data warehouse, operational database systems and data warehouses, Architecture, Implementation, development of data cube technology, data warehousing to data mining, Data warehouse usage.

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UNIT-III

Data Preparation: Preprocess, Data cleaning, Data integration and transformation, Data reduction, Discrete and concept hierarchy generation; Data Mining Primitives: Languages, and System Architecture, graphical user interfaces; Concept Description: Characterization and Comparison, Data generalization and summarization based characterization, Analytical characterization: analysis of attribute relevance, mining class comparisons, Mining descriptive statistical measures in large database.

UNIT-IV

Mining Association Rules in Large Database: Mining single dimensional Boolean association rules from transaction database, Mining multidimensional association rules from database and data warehouses, from associating mining to correlation analysis, Constraint based association mining; Classification and Prediction: Issues, classification by decision tree induction, Bayesian classification, Classification by back propagation; Classification based on concepts from association rule mining; Other classification methods.

Lab: Each student is required to develop at least one data-house.

Suggested Readings:

1. Barry Devlin: *Data Ware House: From Architecture to Implementation*, Addison Wesley.
2. Alex Berson, Stephen Smith, Kurt Threaring; *Building Data Mining Applications for CRM* TMH
3. Alex Berson, Stephen Smith; *Data Warehousing, Data Mining and OLAP*, TMH
4. Michael J. A. Berry, *Data Mining Techniques: for marketing sales and Customer Support*, Gordon Linoff.

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Registrar

San Jose State University
School of Engineering
BISAC-2000000000

ITM-402

E-CRM

Time Allowed: 3 Hours

M.M:70

Course Objective: *Customer Relationship Management (CRM), Generates competency in transforming organizations into customer-centric enterprises. This course is intended to educate, at a high level, about CRM, and eliminate some of the mystery around CRM.*

Course Outcomes:

CO1: Students will be able to outline the benefits of creation for the customers

CO2: Students will be able to identify the benefits of value creation for the customers.

CO3: Students will be able to illustrate the key concepts, technologies and best practise of CRM

CO4: Students will be able to compare the different processes and design the strategic framework of CRM integration in the existing functions of the organisations.

CO5: Students will be able to evaluate the customer equity and the importance of customers' relations to the organisation.

CO6: Students will be able to develop E-CRM methods

Course Contents:

UNIT-I

Introduction: Knowledge Management, e-Business and CRM; The New Economy's New Face, How We Got Here. The Long-Winded Road; The New-New Imperatives; Understanding E-Business: CRM and KM, The New Digital Landscape, Getting Down to e-Business, Customer Relationship Management, Knowledge Management, Knowledge-Enabled Customer Relationship Management.

UNIT-II

A Roadmap for Success: The Knowledge-Enabled Customer Relationship Management Roadmap Phase I: Evaluation and Strategic Alignment Phase II: Infrastructural Development and Development Phase III: Leadership, Change Management, Measurement and Refinement Aligning Strategy and Technology Choices: Getting Past the Innovator's Dilemma; The KCRM Strategic Framework; Analyzing the Business Environment; Understanding the Context Strategic Technology.

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BISAK-125001 (Haryana)

UNIT-III

Audit and Analysis: Why Audit Customer Knowledge? Initiating the Audit; Reference Measures and Methodological Choices; The Audit Method; Documenting Customer Knowledge Assets Using the Audit Results to Drive KCRM; Building an Implementation Team: Tasks and Expertise, Team Composition, Leadership

UNIT-IV

Risk Assessment and Common Pitfalls; Blueprinting the Technology Infrastructure: Design Challenges; The Customer Lifecycle Customer Knowledge Management: Technology Framework; The KCRM Architecture, Integration, Long-Term Considerations; Results-Driven Development and Deployment: Hidden Costs and other Surprises; An overview of Big-Bang, Systems Development Methods; Looking Beyond the Waterfall; Results driven Incremental.

Lab: Each student is required to develop at least one e-CRM method.

Suggested Readings:

1. Alex Berson, Stephen Smith, Kurt Threaring; *Building Data Mining Applications for CRM*, Tata McGraw Hill
2. Michael J.A. Berry, *Data Mining Techniques: For Marketing, Sales and Customer Support* Gordon Linoff, John Wiley.
3. Michael J. A. Berry and Gordon Linoff, *Mastering Data Mining: The Art and Science of Customer Relationship Management*, John Wiley

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ITM-403

SYSTEMS ANALYSIS AND DESIGN

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for system analysis and design information and developing system-design skills for the same.*

Course Outcomes:

CO1: Students will be able to define the life cycle of a systems development project.

CO2: Students will be able to explain the required component and environment for system design

CO3: Students will be able to illustrate system components and environment for projects.

CO4: Students will be able to compare the different information system model for projects.

CO5: Students will be able to evaluate project documentation in developing systems.

CO6: Students will be able to develop LAN/WAN structure for the organisation

Course Contents:

UNIT-I

- Concept of system, Business Information System, types of business information systems, overview of system development methodologies, role of systems analyst, CASE tools for systems analyst; feasibility study - economic, organizational and cultural, technological, schedule and resource.

UNIT-II

System Development Life Cycle : Preliminary investigation - Information System Projects, evaluation of system requests, major steps in preliminary investigation; Systems Analysis - fact finding techniques, documentation, data flow diagrams, data dictionary; cost benefit analysis.

UNIT-III

Systems Design : User interface design, input and output design, data design; Systems Implementation; Application development, quality assurance, structured application development - structure charts, cohesion, coupling, testing, programme, system, operations, user documentation; Installation - Training, system changeover.

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UNIT-IV

Designing Distributed and Internet Systems: designing distributed systems - designing systems for LANs, for client / server architecture; designing internet systems - internet design fundamentals, design issues related to site management, managing online data.

Lab: Each student is required to develop at least one LAN/WAN structure.

Suggested Readings:

1. Hoffer et. al., *Modern System Analysis and Design*, Cengage Learning.
2. Shelly, Cashman, Rosenblatt, *System Analysis and Design*, Cengage Learning.
3. Satzinger, *System Analysis and Design*, Cengage Learning.
4. Hawryszkewycz, I T. *Introduction to Systems Analysis and Design*, PHI.
5. Whitten, J L. *System Analysis and Design Methods*, Galgotia.
6. Awad, Elias M., *Systems Analysis and Design*, Prentice Hall of India.

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Dr. Jyoti Chavhan
Scribble & Stamp
HLSA

ITM-404 PRINCIPLES OF PROGRAMMING LANGUAGE

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for system analysis and design information and developing system-design skills for the same.*

Course Outcomes:

CO1: Students will be able to describe language features used in the current programming language.

CO2: Students will be able to compare features of different programming language.

CO3: Students will be able to solve problem using a range of programming paradigms and assess the effectiveness of each paradigm for a particular problem.

CO4: Students will be able to examine semantic issue in programming language by studying implications in an interpreter.

CO5: Students will be able to evaluate the effectiveness of each paradigm for a particular problem.

CO6: Students will be able to develop system design skills.

Course Contents:

UNIT-I

Preliminaries: Programming Domain, Language Evaluation Criteria, Language Design, Language Categories, Language Design Trade-offs, Influences on language design, Implementation Methods

UNIT-II

Evolution of Major Procedural and Object Oriented Programming Languages; Names, Variables, Scope and Lifetime, Variable Initialization, Data Types: Primitive Data Types, User Defined Data Types, Derived Data Type; Expressions and Assignment Statements: Arithmetic Expressions, Type Conversions,

UNIT-III

Relational Expressions, Assignment Statements, Operators Precedence; Control Structure: Compound Statement, Selection Statements, Iterative Statements, Unconditional Statements

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Hisar-125001 (Haryana)

Subprograms: Fundamentals, Design Issues, Local Referencing, Parameter Passing; Object Oriented Programming: Object and Class, Abstraction, Encapsulation, Inheritance and Polymorphism, Exception Handling

Suggested Readings:

1. Sebesta W. Robert, *Concepts of Programming Languages*, Pearson Education.
2. Doris & Vandekopple J. Julius, *Programming Languages - Paradigm and Practices*, McGraw-Hill.
3. Kenneth C. Loudon, *Programming Languages: Principles and Practice*, Cengage Learning.
4. Sethi Ravi, *Programming Languages*, Pearson Education.
5. Friedman, Wand & Haynes, *Essentials of Programming Languages*, Prentice Hall of India.
6. T.W. Pratt, *Programming Languages Design & Implementation*, Prentice Hall

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ITM-405

MULTIMEDIA AND WEB DEVELOPMENT

Time Allowed: 3 Hours

M.M:70

Course Objective: *This course exposes students to environment for multimedia and web development and its requisite applications.*

Course Outcomes:

- CO1: Students will be able to describe the basic concept of multimedia and web developments.
- CO2: Students will be able to discuss the concepts of data compression, speech recognition, data and file formats standard, web design and cyber security.
- CO3: Students will be able to use basic instructional design principals in the development of multimedia and web designing.
- CO4: Students will be able to compare various audio, video and image file formats and examine various web-designing tools.
- CO5: Students will be able to evaluate various solutions for multimedia and web designing problems.
- CO6: Students will be able to develop web pages including multimedia features

Course Contents:

UNIT-I

Introduction to Multimedia: Multimedia devices, components of multimedia systems, authoring tools, creating multimedia, video-capturing, video on demand.

Data compression : Need for data compression, non-lossy and lossy compressions for images, color, gray scale and still-video image, video image, and audio compression JPEG standard, MPEG standard, DVI Technology, MIDI, brief survey of speech recognition and generation.

UNIT-II

Data and file format standards, Multimedia applications design: Application classes, types of multimedia systems; Distributed multimedia systems: Components, distributed multimedia databases.

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Technology
HIS/MS-125001 (11/12/2022)

UNIT-III

Introduction to Web design: Web development process, site types and architectures, navigation theory and practice.

Introduction to Page: Page sizes, page types, web design tools; introduction to text: Fonts and text layout, formatting tags, text design issues for the web.

UNIT-IV

Cyber Crime; Introduction to Information Technology Act 2000: Digital Signature and its Certification, Duties of Subscribers, Offences.

Lab: Each student is required to develop at least one website.

Suggested Readings:

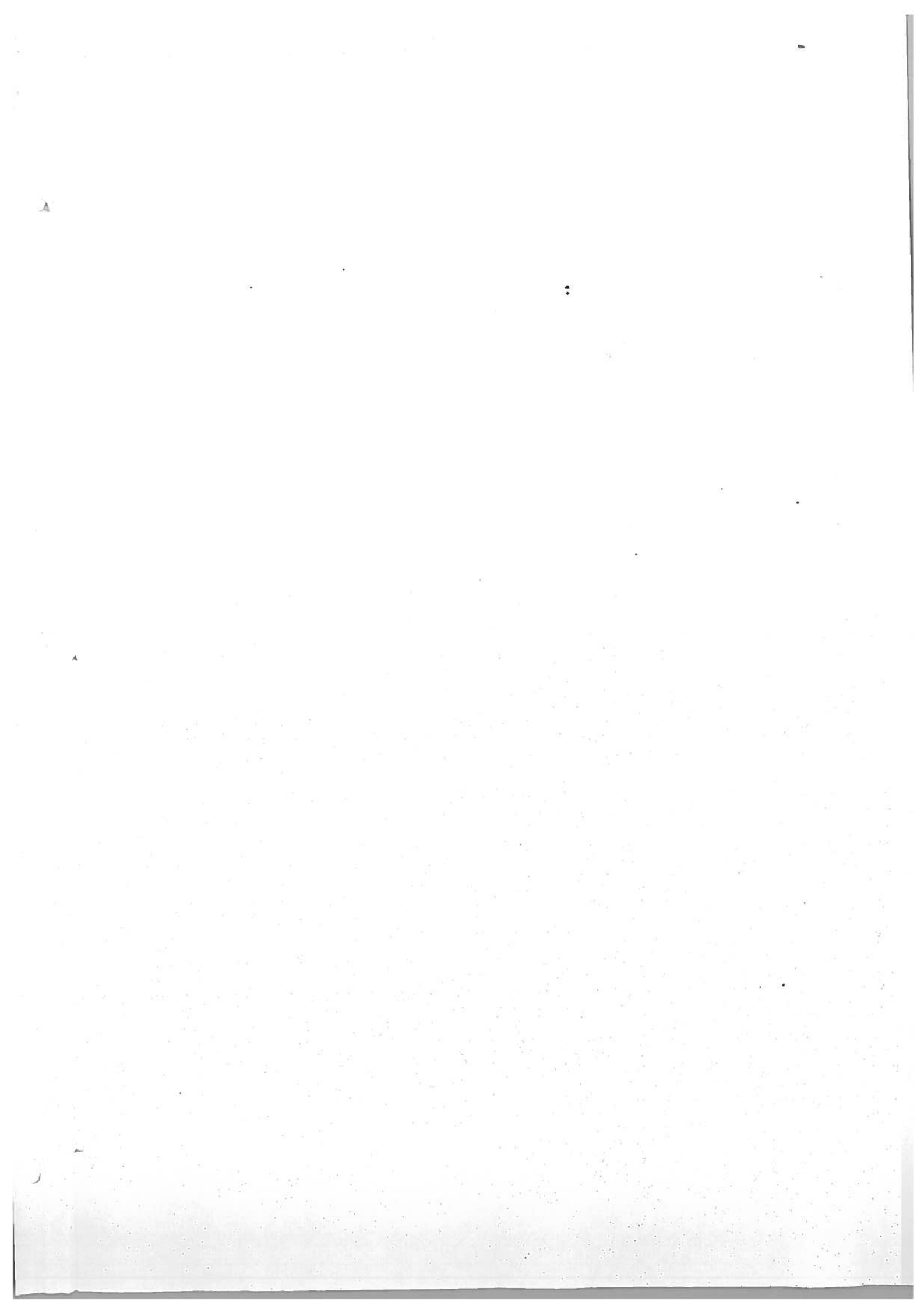
1. Buford, *Multimedia Systems*, Pearson Education,
2. Vaughan, *Multimedia Making IT Work*, Tata McGraw Hill,
3. Villamil and Molina, *Multimedia: An Introduction*, PHI
4. Shuman, *Multimedia in Action*, Vikas Publishing House
5. Senclair, *Multimedia on the PC*, BPB Publications
6. Rosch, *Multimedia Bible*, SAMS Publishing
7. Powell, *Web Design: The Complete Reference*, Tata McGraw Hill

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Registrar

Sum Jyotiashree University of
Sri Lanka
B.A. (Hons) in English



DURATION OF PROGRAMME

Duration of the MBA Programme is Two years and the maximum duration is four years.

1. A student who for whatever reasons is not able to complete the programme within the normal period or the minimum duration prescribed for the programming shall be allowed two years period beyond the normal period to clear the backlog to be qualified for the degree. The general formula, therefore, will be as follows:
 - a) Time span = $N+2$ years for the completion of programme. Where N stands for the normal or minimum duration prescribed for completion of the programme.
 - b) In exceptional circumstances a further extension of one more year may be granted. The exceptional circumstances be spelt out clearly by the relevant statutory body of the University.
 - c) During the extended period, the student shall be considered as a private candidate and also not be eligible for ranking.
2. Ordinarily, no student will be given time beyond the extended period of two years. However, in exceptional circumstances and on the basis of the merits of each case, University may allow a student one more year for completion of the programme.
3. Further, the mercy chance, if any will be given within maximum allowed period of the programme as per UGC guidelines. In normal circumstances, only two chances will be given to pass re -appear examination.

• FACULTY AND SUPPORT STAFF

FACULTY

The Directorate of Distance Education (DDE) have qualified teaching faculty to look after the programme as a programme coordinator. They look for the following activities related to the distance education:

- Conducting Personal Contact Programme (PCP) classes for the Distance students.
- Assisting in the change of Regulations and Curriculum, admission work, counseling new students and other issues such as break of study, exemptions etc..
- Coordinating with all Study Centers to maintain academic activities.
- Coordinating for the preparation of study materials for all semesters/year.

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- Coordinating with the faculty members for the preparation and evaluation of assignments of students, and viva voce examinations.

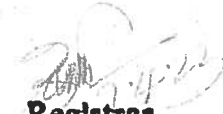
SUPPORT STAFF

The Directorate of Distance Education (DDE) of the university is headed by the director who is a full time faculty member (Professor) of the university appointed by Vice-Chancellor to facilitate the development, implementation and monitoring the programmes offered at DDE and to attend all administrative matters concerned with the activities of directorate. The supporting staffs such as one Deputy Registrar, one Assistant Director, one Superintendent, two Deputy Superintendent, one Hindi Officer, Six Assistants and other clerical staff are coordinating the activities of Directorate of Distance Education (DDE) and looks after the problems of the distance students. The Supporting staff looks after the problems of the students through on line admission help line, examination related work, study material delivery, grievance redressal and so on. The DDE is assisted by the IT CELL for the online uploading and evaluation of assignments and other student support activities. The DDE also assisted by Pt. Deendayal Upadhyaya Computer and Informatics Centre (PDUCIC) department for communicating important information to the distance student through Distance website of Guru Jambheshwar University of Science and Technology, Hisar. The PDUCIC department managed the Distance Website of the University. There are two faculties of management in Directorate of Distance Education who are looking after the programme as programme coordinator and course co-ordinator. Further, support from faculties of parent teaching department i.e. Haryana School of Business (HSB) is taken during PCP classes, preparation and evaluation of assignments etc.

• INSTRUCTIONAL DELIVERY MECHANISM

The Instructional system of the University comprises four components, viz, Self-Learning Material (SLM), Personal Contact Programme, Internal Assessments and End Term Examination.

- **Self-Learning Material (SLM)** – The success and effectiveness of distance education systems largely depends on the study materials so it is necessary that the study material (SLM) must be ideal for easy and better understanding in self-learning mode. Learning Material through Print media named self-learning Material (SLM) is developed with the approach of self-explanatory, self-contained, self-motivating and self-evacuating followed by the UGC guidelines.


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- **Personal Contact Programme** – PCP sessions guide the learners as the programme proceeds. The date and venue for the PCP will be communicated to the learners through our website or SMS Service. During PCP, the learner gets guidance for better understanding of the programme and subject. The Personal Contact Programme (PCP) of 15 days duration for semester programme will be arranged for each of the course by the respective Programme coordinator at the University campus. The learners can get their doubts cleared with the help of subject experts so as to improve their self- learning capability. Learners are required to attend PCP sessions for all their respective subjects as 75% attendance is compulsory in PCP classes.
 - **Internal Assessments-** Distance education learners have to depend much on self-study. In order to ascertain the writing skill and level of comprehension of the learner, assignment work is compulsory for all learners. The Directorate of Distance Education (DDE) of this university has an online portal for the uploading of the assignments and same has been evaluated online by the subject expert. Two assignments of 30 marks i.e. 15 marks each shall be allotted for each subject consists of questions with practical based. The assignment question papers will be uploaded to the website within a scheduled time and the learners shall be required to respond them within a specified period of time. The response of the learner is examined by a faculty member.
 - **End Term Examination-** At the end of every session learners will give theory exam for 70 marks for each subject. For examination, there will be of nine questions. The first question will be compulsory consisting of six short questions covering the entire syllabus (all four Units). In addition, eight more questions will be set comprising two questions from each unit. The students shall be required to attempt five questions in all selecting one question from each unit in addition to the compulsory Question No.1. All questions shall carry equal marks. The maximum time allotted for the major test is 03 (three) hours.

- **STUDENT SUPPORT SERVICES**

The distance department of the university is provides the Student Support Services through online mode. Following are the main student support services provided by university through online mode:

- On line Admission Portal for students
- On line fee portal for students

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- SMS alert facility for the students for information related to PCPs, Project, Deadlines and Viva-voce etc.
 - Grievance handling mechanism is adopted with the help of supporting technical staff
 - Practical Questions Based Assignments
 - On-line availability of Old Question Papers and study material
 - Comprehensive viva-voce is conducted after term end examination in the University
 - Student Help Desk

F. PROCEDURE FOR ADMISSIONS, CURRICULUM TRANSACTION AND EVALUATION

• Procedure for Admissions

Admission Procedure - Whole admission process is online as per the University rules.

Admission policy for the programme - Admission is based on filling online Admission Form.

The procedure of filling the online application form is a four-step procedure, i.e.

- Candidate Registration.
- Payment option through Net Banking, Debit card or Credit card.
- Filling of application form.
- Uploading required scanned documents.
- Generating Preview

• Eligibility

Graduation with at least 50% marks (47.5% for SC category of Haryana) from a recognized university/Institution of India/Abroad.

• Fee structure

MASTER OF BUSINESS ADMINISTRATION (MBA) (Tentative Time)

Installment No	Amount (In Rs.)	Without Late fee	With late fee of Rs.1000/
1st Installment	10,250/-*		
2nd Installment	7750/-	31 st Jan Every Year	30 th April every year
3rd Installment	10,250/-*	31 st August Every Year	30th November every year
4th Installment	7750/-	31 Jan Every Year	30 th April every year

• Curriculum Transaction

The Directorate will supply study material in the form of Self-Learning Mode (SLM) printed book/lessons as well as available on the website of Distance Education. The students will get the

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same directly from the Directorate either by-hand or will be sent by post/courier service.

The Personal Contact Programme (PCP) of 15 days duration for semester programme will be arranged for each of the course by the respective Programme coordinator at the University campus. Theory/Practical teaching as per requirements will be provided to the students by the subject specialists. The PCPs will be held as per the schedule given in the prospectus. In addition to this students are informed through Distance Education website and SMS as well. However, the students are advised to report to the concerned Programme coordinator for PCP at the contact given therein.

- **Evaluation**

Internal assessment is based on practical assignments and the evaluation is done by experts in relevant field. External term end evaluation is done by experts in relevant field.

Last Date of online submission of Internal Assignments and STPR (Tentative)

Odd Semester	Even Semester
15 th January every year	30 th April every year
Last Date of submission of Internal Assignment with a late fee of Rs. 500/-	
31 st January every year	31 st May every year
Last Date of submission of Internal Assignment with a late fee of RS.1000/-	
15 th February every year	15 th June every year
Last Date of submission of STPR without late fees	
30 th November after 2 nd semester	

NOTE: The students have to upload two internal handwritten assignment of each theory paper of 30% weightage in the stipulated time period mentioned above. Assignments to be prepared by the students will be available on the website www.dde.gjust.ac.in. It is the sole responsibility of the student to download the question paper of the assignment and upload the solved assignments online as per above mentioned schedule. If any student will upload the assignment after the above stipulated schedule then the assignment will not be accepted and the student will be treated as absent in internal marks.

G. REQUIREMENT OF THE LABORATORY SUPPORT AND LIBRARY RESOURCES

- **Laboratory Support:**

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A well-equipped Computer lab with latest version of MS Office and internet facility is also available in the department of Directorate of Distance Education (DDE) of this university. This Computer Lab is established with an aim to meet the computing requirements of all the Distance learners of the University. This lab is equipped with 12 desktop computers of latest configuration i.e. Window 7, Window 10 and I3 processor. In addition to this, there is one printer, one scanner and one LED in the Computer Lab for teaching through presentation and video lectures to students. There is one lab attendant for handling the queries regarding online admission, fee payment, uploading of assignments, any other queries through mail, etc.

- **Library Resources:**

The infrastructure related to library resources is available in the present set-up of the university whereby, we have a well stacked library with latest books, journals, magazines and newspapers. It is named after the great Indian Jurist, Economist, Politician and Social Reformer Dr. Bhim Rao Ambedkar. The seating capacity of the University Library is 400 seats. By the end of December 2018, the Library has a collection of 106566 books. The Library in its electronic repository has the access to 7000+ e-journals from 14 publishers and 5 Databases. Moreover, 2149 e-books of national and international reputed publishers have also been added in e-repository to enrich the students. University library provides different services to distance learners such as Air Conditioned Reading Halls, Reading Facility for 400 students, Laptop Lab for SC/ST students consisting of 20 Laptops with internet facility and Potable Water facility on every floor. The online e-library resources namely INFLIBNET is also available for the accessibility of books and journals.

H. COST ESTIMATE OF THE PROGRAMME AND THE PROVISIONS

Cost estimates of programme is based on following components:

- Study Material development and delivery such as cost of writing, vetting, editing, SLM conversion, printing and dispatch etc. (remuneration rates are attached)
- PCP and related activities (remuneration rates are attached)
- Examination and evaluation related activities (remuneration rates attached)
- Internal assessment including assignment preparation and evaluation.
- Miscellaneous costs like advertising on FM radio broadcast, newspapers and SMS alert.
- Salary to Teaching and Non-Teaching Staff.

Special Provisions:

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- The Scheduled Caste students of Haryana whose family income from all sources is up to Rs. 2.5 Lacs per annum as prescribed by the State Govt. for Post Matric Scholarship and who produces, at the time of admission, the "Caste" and "Income" certificates issued by the competent authority, are not required to pay any kind of fees and they may pay a sum of Rs.1000/- (Refundable) as security/caution money at the time of admission. The eligible SC students will submit the Post Matric Scholarship forms at the time of admission/fee deposition. The hard copy of the filled post matric scholarship form is to be submitted within the stipulated time in the office of the Directorate of Distance Education failing which the candidate will not be allowed to appear in the examination. In case the student does not apply for scholarship or is found ineligible for award of scholarship or being eligible he/she is not awarded scholarship due to one or other reason, he/she will be liable to pay full fee along with late fine @ Rs. 10/- per day.
 - The fee concession on the pattern of Guru Jambheshwar University of Science & Technology employees will also be extended to the employees of the office of the Directorate of Technical Education Haryana posted in the Head Office at Panchkula and the Audit staff posted in Guru Jambheshwar University of Science & Technology, Hisar for pursuing studies in all the courses being run by the University. However, the Audit Staff will be entitled to avail such facility up to the period till they remain posted in Guru Jambheshwar University of Science & Technology, Hisar.
 - The students must remit the fee of subsequent semesters/installments as per the schedule without waiting for the result so as to enable the Directorate to supply the study material in time.
 - In case of sudden demise of any student during study the fees paid by him/her for the session of demise will be refunded, if claimed by parents 25% concession of the total fees to serving/ retired military personal upto the rank of N.C.O. or of military personal killed or incapacitated wholly or partially during the war and their wards, will be allowed.

I. QUALITY ASSURANCE MECHANISM

• Quality Policy of University:

The Guru Jambheshwar University of Science & Technology (GJUST) is committed to achieve excellence in teaching, research, and extension by follow and implement following points of quality policy:

- Imparting globally competitive education
- Selecting and retaining competent and motivating faculty

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- Providing state of the art infrastructural resources
 - Promoting quality research culture
 - Ensuring transparent and accountable governance
 - Focusing on holistic development of learners
 - Symbiotic relationship with industry, other academic institutions, and society
 - Striving for financial self-reliance

• **Advisory Committee:**


The Advisory Committee headed by the Vice-Chancellor has been constituted to monitor the activities of the Directorate along-with matters related to quality assurance (Functions and List of members attached).

Following is the composition of Advisory Committee:

Vice-Chancellor, GJUS&T, Hisar	Chairman
Registrar, GJUS&T, Hisar	Member
Dean. of Colleges, GJUS&T, Hisar	Member
Dean, Academic Affair, GJUS&T, Hisar	Member
Director, Distance Education, Kurukshetra University	Member
Director, Distance Education, GJUS&T, Hisar	Member
Director, HSB, GJUS&T, Hisar	Member
Chairman, Deptt. of CSE, GJUS&T, Hisar	Member
Chairman, Deptt. of CM&T, GJUS&T, Hisar	Member
Chairman, Deptt. of Mathematics, GJUS&T, Hisar	Member
Prof. H. Bansal, HSB, GJUS&T, Hisar	Member
Prof. Saroj, Deptt. of CSE, GJUS&T, Hisar	Member
Prof. Manoj Dayal, Deptt. of CM&T, GJUS&T, Hisar	Member
Director, PDUCIC, GJUS&T, Hisar	Member
All Programme Co-ordinators, DE, GJUS&T, Hisar	Members

• **Centre for Internal Quality Assurance (CIQA)**

The CIQA also oversees the development and preparation of SLMs, then it is submitted to the Board of Studies concerned for the approval. The objective of establishment of Centre for Internal Quality Assurance (CIQA) is to develop and put in place a comprehensive and dynamic internal quality assurance system to provide high quality programmes of higher education in the Open and Distance Learning mode.


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Composition of CIQA for the year 2022-23:

CENTRE FOR INTERNAL QUALITY ASSURANCE (C.I.Q.A)		
1	Vice Chancellor, GJUS&T	Chairperson
2	Registrar, GJUS&T	Member
3	Dean of Colleges, GJUS&T	Member
4	Controller of Examination, GJUS&T	Member
5	Director, HSB, GJUS&T	Member
6	Chairperson, Deptt. of CM&T, GJUS&T	Member
7	Chairperson, Deptt. of Mathematics, GJUS&T	Member
8	Prof. Pardeep, Director (DE), KUK	Member
9	Prof. Saroj, Deptt. of CSE, GJUS&T	Member
10	Prof. R. Bhaskar, IGNOU, Delhi	Member
11	Prof. Suresh Kumar Mittal, HSB, GJUS&T	Member
12	Director, PDUCIC, GJUS&T	Member
13	Dy. Registrar (DE), GJUS&T	Member
14	DR/AR (Accounts), GJUS&T	Member
15	DR/AR (Academic), GJUS&T	Member
16	Director, Distance Education/CIQA	Member Secretary
17	Sh. Vinod Goyal, Assistant Professor, DDE, GJUS&T	Invitee Member
18	Dr. Sunaina, Assistant Professor, DDE, GJUS&T,	Invitee Member

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19	Dr. Vijender Sihag, Assistant Professor, DDE,GJUS&T,	Invitee Member
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Functions of Centre for Internal Quality Assurance (CIQA)

Following are the main functions of CIQA:

- To maintain quality in the services provided to the learners.
- To ensure continuous improvement in the entire operations of the Higher Education Institution.
- To identify the key areas in which the Higher Education Institution should maintain quality.
- To disseminate information on quality assurance.
- To device mechanisms for interaction and obtaining feedback from various Departments or Centres or Schools in the Higher Education Institution.
- To suggest to the authorities of the Higher Education Institution, measures for qualitative improvement.
- To ensure the implementation of its recommendations through regular monitoring.
- To ensure participation of all stake holders namely, learners, teachers, staff, parents, society, employers and Government in Quality Improvement Process.
- To prepare Programme Project Report and ensure another launch of programme(s).
- Collection, collation and dissemination of accurate, complete and reliable statistics about the quality of the programme(s).

Activities of Centre for Internal Quality Assurance (CIQA)

Following are the main activities of CIQA:

- Prepare a Programme Project Report (PPR) for each programme according to the norms and guidelines prescribed by the Commission and wherever necessary by the appropriate regulatory authority having control over the programme;
- Get the Programme Project Report (PPR) approved by the appropriate authority of the Higher Educational Institution and the Commission before launch of the programme;
- Oversee the development of Study Learning Material (SLM), integration of Information and Communication Technology (ICT), setting up of Learning Centres and coordination with the parent institution and relevant Regulatory authorities;

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- Put in place monitoring mechanism to ensure the proper implementation of Programme Project Reports (PPRs);
 - Design annual plans for quality level enhancement at the level of the Higher Educational Institution and ensure their implementation;
 - Arrange for feedback responses from students, employers and other stakeholders for quality related institutional processes;
 - Develop quality benchmarks or parameters for the various academic and administrative activities of the Higher Educational Institution;
 - Obtain information from other Higher Educational Institutions on various quality benchmarks or parameters and best practices;
 - Organise workshops or seminars on quality related themes and Higher Educational Institution wise dissemination of the proceedings of such activities;
 - Suggest restructuring of programmes in order to make them relevant to the job market;
 - Develop and implement innovative practices in major areas leading to quality enhancement in services to the learners;
 - Create learner centric environment rather than institution centric environment;
 - Adopt measures to ensure internalisation and institutionalisation of quality enhancement practices through periodic accreditation and audit;
 - Conduct or encourage system based research to bring about qualitative change in the entire system;
 - Coordinate between the Higher Educational Institution and the Commission for various quality related issues or guidelines;
 - Record activities undertaken on quality assurance in the form of an annual report; and
 - To coordinate recognition and accreditation of the Higher Educational Institution.

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PROGRAMME OUTCOMES OF MBA PROGRAMME

The MBA is a highly prestigious management course of modern times and prepares the participants for taking up middle and top level challenging executive assignments in private and public sectors. Accordingly, they are imparted adequate conceptual knowledge and practical training in various functional areas of management comprising Finance, Marketing, Human Resource Development, International Business and Business Analytics. MBA at DDE is a two years Programme divided into four semesters. The Programme is aimed at following outcomes: **PO1. Business Management Knowledge:** Apply knowledge of business management theories and practices to solve business problems. **PO2. Critical Thinking and Problem Analysis:** Foster Analytical and critical thinking abilities for data based decision-making. **PO3. Leadership and Business Solutions:** Ability to develop Value based Leadership ability that offers business solutions. **PO4. Communication and Other Skills:** Ability to understand, analyze and communicate global, economic, legal, and ethical aspects of business. **PO5. Team Dynamics and Management:** Ability to lead themselves and others in the achievement of organizational goals, contributing effectively to a team environment

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SAMPLE
SELF-LEARNING MATERIAL (SLM)
FOR
MASTER OF BUSINESS ADMINISTRATION (MBA)
(Through Open Distance Learning)



Directorate of Distance Education,
Guru Jambheshwar University of Science & Technology,
Hisar, Haryana

(Established by State Legislature Act 17 of 1995 & Recognised by UGC Act 1956 u/s 12-B & 2 (F)
(‘A+’ GRADE NAAC ACCREDITED)

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HISAR-125001 (Haryana)

Subject: Management Process and Organizational Behaviour	
Course code: MBA-101	Author: Dr. Poonam
Lesson no. : 04	Vetter: Prof. Anil Kumar
PLANNING :	

Structure

4.1 Learning Objectives

4.2 Introduction

4.2.1 Concept of Planning

4.2.2 Process of Planning

4.2.3 Importance of Planning

4.3 Types of Plans

4.3.1 Policy

4.3.2 Programme

4.3.3 Strategy

4.3.4 Vision

4.3.5 Mission

4.3.6 Goals

4.3.7 Objectives

4.4 Check your Progress

4.5 Summary

4.6 Keywords

4.7 Self-Assessment Test


4.8 Answers to check your progress

4.9 References/Suggested Readings

4.1 LEARNING OBJECTIVES

After going through this lesson, students will be able to:

- Define concept of planning


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- Explain the process of planning
- Explain the importance of planning
- Explain the different types of plans

4.2 INTRODUCTION

Planning deals with framing organizational objectives and devising ways to achieve them. Managers plan business activities at all levels: top, middle and low, though planning is required more at top levels than lower levels. While top managers plan for the whole organization, middle-level managers plan for their respective departments and lower-level managers plan for day-to-day business operations. All sizes of organizations plan their operations. While large-sized organizations spend more time on planning, small sized organizations spend comparatively less time. Business organizations make long-term, medium-term and short-term plans depending upon the nature of their operations. Manufacturing units make more of long-term plans while retailers engage more in short-term planning.

4.2.1 CONCEPT OF PLANNING

Planning involves forecasting, framing objectives of the firm, thinking of different courses of action and deciding the best course of action to achieve the goals. Planning, thus, involves decision making, that is, deciding a course of action for framing and achieving objectives.

According to Terry and Franklin: "Planning is selecting information and making assumptions regarding the future to formulate activities necessary to achieve organizational objectives."

According to Louis A. Allen: "Planning involves the definition of objectives and planning of operations in terms of policies, plans, and budgets which will establish the most advantageous course for the company. Planning also requires that managers keep currently informed on all matters which will contribute to improved planning and performance in the position."

According to Koontz and Weihrich: "Planning involves selecting missions and objectives and the actions to achieve them; it requires decision-making, which is, choosing from alternative future course of action. Plans, thus, provide a rational approach to achieving pre-selected objectives."

Features of Planning:

Planning is characterized by the following features:

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Primary function of management: Planning is the first function of management. All other functions follow planning. If planning is wrong, organization structures will be faulty, people will carry out wrong plans, motivation and leadership policies will be ineffective and controls will also aim to achieve faulty plans. This will result in huge losses for the organization.

Adaptive to environment: Planning is a continuous process. It is done so that organizations can survive in the changing environment. Managers incorporate changes in environment like competitors' policies, consumers' tastes, economic policies, value system of the society in their plans and planning is, thus, adaptive to environment.

Future oriented: Planning is looking ahead. It fills the gap between where we are and where we want to go. It prepares organizations to meet future challenges and opportunities. Future being uncertain, managers adopt scientific methods of forecasting. They anticipate future and incorporate changes in their activities to achieve organizational goals effectively. Correct forecasting helps in making sound business decisions.

Goal oriented: Planning is done to achieve the desired goals. Planning is, thus, goal oriented. It clearly lays down the goals and ways to achieve them.

Pervasive: Planning is a pervasive function. It is done for all organizations – business and non-business, profitable and non-profitable, small and big. In a business organization, it is done at each level; top, middle and low. The nature and scope of planning, however, is different at different levels; top managers plan for the organization as a whole, middle level managers plan for their departments and lower level managers plan for their operating units.

Intellectual process: Planning is a complex process. Managers cannot plan unless they analyse the past, present and future environment. It is difficult to predict future as it keeps changing. Managers have to conceptually and analytically excel in making plans that can be implemented. They should have judgment, intuition, foresightedness, imagination etc. to make good plans. Planning, thus, cannot be done in dark. It is an intellectual process.

Efficient: Efficient means cost effective. Time and money are spent on planning to earn gains in future. A trade off is maintained (comparison between cost and returns) and managers ensure that expected gains are more than the current costs. Efficiency means "the achievement of the ends with the least amount of resources."

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Flexible: Planning relates to future. Future being uncertain, plans will fail to achieve the objectives if unexpected changes take place in future. Managers have to be quick in changing their plans so that future changes do not fail the plans. Planning is, thus, a flexible activity.

Planning and decision-making: Planning involves decision making. Choosing goals out of multiple goals, deciding about ways to achieve them out of a number of alternatives, deciding about sources from where funds will be raised, deciding about optimum allocation of resources over different goals and departments etc. are some of the choices that managers make to run an organization effectively. Planning continuously involves decision-making. In fact, the process of decision-making starts much before the process of planning.

Feedback: Planning is closely related to control. It specifies future actions and control ensures those actions are carried out. Planning frames organizational goals and control ensures those goals are achieved. Controlling function provides constant feedback about the efficacy of plans. Deviations (if any) in actual performance against planned performance helps in reviewing or abandoning plans to make fresh plans.

Open system approach: Almost all organizations are open systems as they interact with the environment (input — conversion — output) in their desire to reach the future stated goals. In bridging the gap between the present and the future, the open system approach helps the organization in responding to the environmental challenges.

Principles of Planning:

There are following principles for effective planning:

1. *Principle of contribution to objectives:* Plans must be directed towards organizational objectives.
2. *Principle of objectives:* Since objectives are the basis for planning, they should be clear, specific, measurable and unambiguous. They should be understood and accepted by all the organizational members.
3. *Principle of primacy of planning:* Planning is pre-requisite to other managerial functions. It should be effectively done so that other functions of management also contribute to the overall organizational goals.
4. *Principle of planning premises:* Since planning is based on forecasts, clear planning premises lead to efficient planning process. Planning premises are assumptions or

forecasts about future on which plans are based. Premises form the foundation of plans. Sound planning premises help in making sound plans. They reduce uncertainty in achieving planned targets. Premises or assumptions are based on the information that managers generate by forecasting. Forecasting, thus, precedes planning premises and premises precede planning.

5. *Principle of strategy and policy framework:* Strategies and policies help to attain organizational objectives. Clear policies and strategies lead to clear and effective plans.
6. *Principle of limiting factor:* Limiting factor limits the capacity of the organization to achieve the goals. While selecting a course of action, managers narrow their search for alternatives and try to overcome them. The principle of limiting factor states: "By recognizing and overcoming those factors that stand critically in the way of a goal, the best alternative course of action can be selected."
7. *Principle of commitment:* Plans should cover a time span long enough for managers to fulfill their commitment to the decisions made by them.
8. *Principle of flexibility:* Plans should be flexible to adjust to environmental changes.
9. *Principle of navigational change:* This principle is closely related to the principle of flexibility. It reviews the plans from time to time and reframes them if the need arises (according to future changes and expectations.) as the navigator does when the ship is not going in the right direction.

Limitations of Planning:

Planning is inevitable. Its importance and benefits cannot be undermined. However, it suffers from some limitations. Following are the limitations of planning:

1. *Costly*
2. *Restricts creativity*
3. *Planning in advance is not always the right course of action*
4. *Multiple goals*
5. *Too much focus on future*
6. *Delay in action*
7. *False sense of security*

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8. *Coordination with other managerial functions*
9. *Planning premises*
10. *Lack of resources*
11. *Environmental constraints:*
12. *High volatility in the environment:*

Barriers to Planning:

There are following barriers to planning:

1. *Individual based barriers*
2. *Organization based barriers*

1. *Individual-based Barriers:* These barriers relate to individuals who frame and implement the plans. Both at the formulation level and implementation level, there may be barriers to planning because people involved are either not committed to the planning process or they are not clear of objectives or planning premises.

These barriers are: I. Unwillingness to set goals, II. Unwillingness to accept change

2. *Organization-based Barriers:* Barriers at the organizational level are as follows:

1. Environmental factors: Though plans are based on planning premises, yet unpredicted, external, non-controllable predictions can fail even the best plans. The environment is changing at such a fast pace that managers may have to frequently alter the plans or reframe them. If it is not done, it becomes difficult for managers to make effective plans.

2. Constraint on resources: Planners may have ideas but not enough resources to put the ideas into action. Insufficient resources can limit the capacity of organizations to make sound plans. In case the organization has made irreversible investment, that is, investment in heavy fixed assets (land, building, fixtures etc.), and the managers want to switch over to another investment because they feel that investment is not sound, it may not be possible to liquidate that investment as it would result in huge financial loss. Till the time such assets exist, planning based on such assets will not bring the desired results.

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Overcoming the Barriers:

The barriers to planning can be overcome through the following measures:

1. Unwillingness to give up alternative goals can be overcome through scientific selection of goals. Managers should carry out cost-benefit analysis for each alternative and accept goals whose returns are greater than costs.
2. The fear of failure to achieve the goals can be reduced by applying mathematical models to the goals selection process. Besides, managers should make flexible plans which can be changed according to situations.
3. Lack of organizational knowledge can be overcome through a well-connected communication system where managers at all levels remain well informed of the organizational activities. A well-developed management information system can solve this problem.
4. Managers remain informed about the external environment through effective system of communication. Regular contact with outside parties, through seminars and conferences can provide knowledge of environment. In fact, the need for planning arises because of uncertainties in the environment. If everything could be forecast, there would be no need for planning. The environmental changes can be predicted through forecasting techniques like time series, correlation, regression and other statistical methods that help to know the environmental factors and their effect on setting the goals.
5. The above measures develop managers' confidence to make rational and realistic goals which are challenging but attainable. The important, overall organizational goals are set at the top level of management and goals lower in priority are framed by lower-level managers, in consultation with the superiors.

Besides the above discussed measures, the following measures also help to overcome barriers to planning:

- (a) Top management support
- (b) Setting responsibility
- (c) Training to planners
- (d) Encourage group participation
- (d) Encourage group participation
- (e) Prepare contingency plans

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4.2.2 PROCESS OF PLANNING

To plan is to chart out the future course of action to achieve the desired goal. For this purpose, the following major steps are involved in planning process. Planning is a continuous process which is unending process which indicates the following systematic procedure. The steps in planning include the segmental procedure followed by the planning committee. The following are the steps:-

1. *Forecasting of Professional Opportunities:* Planning needs to search for professional opportunities in the business. The objectives can be set after knowing the opportunities. The professional opportunity may be in the form of units of production, sales units, profit in rupees, and profit in percentage.

2. *Establishment of objectives:* Planning is closely associated with the objectives of the organization. If there are no objectives there is nothing to plan. Objectives must be laid down in the clearest possible item.

- Planning requires a systematic approach.
- Planning starts with the setting of goals and objectives to be achieved.
- Objectives provide a rationale for undertaking various activities as well as indicate direction of efforts.
- Moreover objectives focus the attention of managers on the end results to be achieved.
- As a matter of fact, objectives provide nucleus to the planning process. Therefore, objectives should be stated in a clear, precise and unambiguous language. Otherwise the activities undertaken are bound to be ineffective.
- As far as possible, objectives should be stated in quantitative terms. For example, Number of men is working, wages given, units produced, etc. But such an objective cannot be stated in quantitative terms like performance of quality control manager, effectiveness of personnel manager.
- Such goals should be specified in qualitative terms.
- Hence objectives should be practical, acceptable, workable and achievable.

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3. *Forecasting*: Forecasting means assessing the future on the basis of present situation and past experiences. Accurate forecasting leads to correct decisions about future course of action. Accurate forecasting helps to make accurate planning.

4. *Establishing the sequence of Activities*: Planning includes the forecasting of so many activities. The proper sequence for those activities is essential. In order to have a successful execution of the basic plan as also of the derivative plans proper sequence is decided.

- Planning premises are the assumptions about the lively shape of events in future.
- They serve as a basis of planning.
- Establishment of planning premises is concerned with determining where one tends to deviate from the actual plans and causes of such deviations.
- It is to find out what obstacles are there in the way of business during the course of operations.
- Establishment of planning premises is concerned to take such steps that avoid these obstacles to a great extent.
- Planning premises may be internal or external. Internal includes capital investment policy, management labour relations, philosophy of management, etc. Whereas external includes socio- economic, political and economical changes.
- Internal premises are controllable whereas external are non- controllable.

5. *Determining of Alternative Courses*: There are several alternatives available for achieving the organizational objectives. Therefore, the next step in the planning process is to search for and examine alternative courses of action. However the more common problem is not selection of alternative but reducing the number of alternatives. So that the most promising option may be analyzed.

- When forecast are available and premises are established, a number of alternative course of actions.
- For this purpose, each and every alternative have to be considered. Alternative will be evaluated by weighing its pros and cons in the light of resources available and requirements of the organization.
- The merits, demerits as well as the consequences of each alternative must be examined before the choice is being made.
- After objective and scientific evaluation, the best alternative is chosen.

- The planners should take help of various quantitative techniques to judge the stability of an alternative.

6. *Selection of Alternative Course:* After having searched and examined the alternative courses, the next step is to evaluate the alternatives taking into consideration their favorable and unfavorable problem as one alternative may have some favorable points and other alternative may have some other favorable points.

7. *Budgeting:* A master budget for the whole enterprise and other departmental budgets are prepared to give meaning to plans. Financial aspects are covered under budgeting.

8. *Follow-up:* This is the last step in planning. After having adopted major and expected plans and they are brought into execution. It is necessary to make a provision to check that the actual work is being executed and results are obtained at each stage according to plans and in case of variances or differences to actual, corrective steps are taken immediately.

- After choosing a particular course of action, it is put into action.
- After the selected plan is implemented, it is important to appraise its effectiveness.
- This is done on the basis of feedback or information received from departments or persons concerned.
- This enables the management to correct deviations or modify the plan.
- This step establishes a link between planning and controlling function.
- The follow up must go side by side the implementation of plans so that in the light of observations made, future plans can be made more realistic.

4.2.3 IMPORTANCE/OBJECTIVES OF PLANNING

Planning is important because it enables the organization to survive and grow in the dynamic, changing environment. Planning is the basis of distinction between the successful and unsuccessful organizations. In the dynamic environment, planning helps in scanning the environmental changes and forecasting the future. It is important to plan because of the following reasons:

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1. *Achievement of organizational objectives:* Planning helps the organization to achieve its objectives. Planning provides the path for achievement of organizational goals with minimum waste of time, money and energy. It bridges the gap between where we are and where we want to go.
2. *Fulfillment of organizational commitments:* Organizations have long-term and short-term commitments towards society, depending on their nature. A defense organization, for example, has long-run commitments while a retailer is more interested in short-term goals or responsibilities. These commitments or goals of the organization can be fulfilled through planning.
3. *It facilitates decision making:* Decision-making is deciding what to do when managers face a problem-solving situation and adopting the best way out of the available courses/ ways of doing it. It is "the process of choosing a course of action from two or more alternatives." Managers have to make decisions like: what to produce and how to produce, what are the organizational resources and how can they are effectively allocated over different functional areas, what are their primary goals — profit or social responsibility and many more. Planning helps to decide a course of action that will solve the specific problem.
4. *It provides stability to organizations:* Organizations that plan their operations are more stable than others. Managers foresee risk and prepare the organizations to face them when they occur. Planning precedes all other managerial functions and coordinates them for providing stability to the organization. Planning before organizing (what kind of organization structure), planning before staffing (what kind of people), planning before direction (what kind of motivation, leadership and communication system) and planning before control (the controlling techniques to achieve standards of performance) promotes group effort and team work to give right direction to organizational activities.
5. *Overall view of the organization/coordination:* Organization is a structure of relationships where authority and responsibility are clearly defined. Planning coordinates the functions performed by individual members and departments and unifies them into a single goal — the organizational goal. It unifies inter-departmental activities so that all departments work according to plans.

6. *Optimum utilization of resources / efficiency of operations:* Organizations work with limited resources. Planning allocates these resources over different objectives and functional areas (production, personnel, finance and marketing) in the order of priority. This results in optimum utilization of scarce organizational resources (men, material, money etc.) and their effective conversion into productive outputs.

7. *Development of managers:* Planning involves imagination, thought and creativity by managers. Managers develop their conceptual and analytical skills to plan and coordinate organizational activities with external environment.

8. *Promotes innovation / creativity:* Planning involves forecasting. Managers foresee future, analyze the strengths of their competitors and think of new and innovative ways of promoting their products. Planning promotes new ideas, new products, and new relationships and, thus, promotes innovation and creativity.

9. *Basis for control:* Planning frames standards of performance and control ensures achievement of standards. Controlling involves measurement of actual performance, its comparison with standard performance, finding deviations and taking steps to remove the deviations to make better plans for future. Unless there are plans, there will be no control. Planning is, thus, the basis for control.

10. *Reduction of risk:* Risk is a situation where moderately reliable information is available about future but it is incomplete. Uncertainty, on the other hand, is a situation where no information is available about future. Changes in government's policies are a situation of uncertainty while entry of competitors in the market with better technology represents a situation of risk. Planning helps to reduce risk through forecasting.

11. *Morale boost up:* If organizational plans succeed and goals are achieved, managers and employees feel satisfied and morally boost up to concentrate on organizational activities. Successful planning, thus, promotes success of the organization and higher standards in the next planning cycle.

12. *Facilitates delegation:* Well-designed plans enable managers to concentrate on strategic issues and delegate routine/operating activities to lower-level managers. It, thus, facilitates delegation.

4.3 TYPES OF PLANS

There are different types of plans which includes like policy, procedure, programme, vision, mission, goals and objectives etc.

4.3.1 POLICY

Policy provides a broad guideline for managers to follow when dealing with important areas of decision making. Policies are general statements that explain how a manager should attempt to handle routine management responsibilities. Typical human resources policies, for an instance, address such matters as employee hiring, terminations, performance appraisals, pay increases, and discipline. If there is an established policy, it becomes easier to resolve problems or issues. As such, a policy is the general response to a particular problem or situation. There are policies for all levels and departments in the organization ranging from major company policies to minor policies. Major company policies are for all to know i.e., customers, clients, competitors etc., whereas minor policies are applicable to insiders and contain minute details of information vital to the employees of an organization. But there has to be some basis for divulging information to others. Policies define the broad parameters within which a manager may function. The manager may use his/her discretion to interpret and apply a policy. For example, the decisions taken under a Purchase Policy would be in the nature of manufacturing or buying decisions. Should a company make or buy its requirements of packages, transport services, printing of stationery, water and power supply and other items? How should vendors be selected for procuring supplies? How many suppliers should a company make purchases from? What are the criteria for choosing suppliers? All these queries would be addressed by the Purchase Policy.

Koontz and O'Donnel define policy as *"a general statement of understanding which guides the thinking and action in decision-making."* Policies provide the framework within which managers operate. Policies exist at all levels in the organization. Some may be major policies affecting the whole organization, while others may be minor or derivative policies affecting the functioning of departments or sections within the departments.

Policies are laid down by the management for all the important functional areas. As such, we hear about production policies, financial policies, marketing policies and personnel policies, to mention a few. For instance, in the personnel area, specific policies may be formulated for recruitment, training, compensation, etc. Accordingly whenever the need for recruitment arises, the personnel manager consults the existing recruitment policy of the company and initiates the

steps necessary to fill the vacancies. Thus it is evident that the personnel manager operates within the broad policy of the company in recruiting the people. Thus, policy is a onetime standing decision that helps the manager in making day-to-day decisions in their operational areas.

A policy is a standing plan. Policies are directives providing continuous framework for executive actions on recurrent managerial problems. A policy assists decision-making but deviations may be needed, as exceptions and under some extraordinary circumstances. Policy-making is an important part of the process of planning. Policies may be described as plans which are meant to serve as broad guides to decision making in a firm. Policies exist at various levels of the enterprise—Corporate level, divisional level and departmental level. Policies are valuable because they allow lower levels of management to handle problems without going to top management for a decision each time.

Essentials of Policy Formulation

The essentials of policy formation may be listed as below:

- A policy should be definite, positive and clear. It should be understood by everyone in the organization.
- A policy should be translatable into the practices.
- A policy should be flexible and at the same time have a high degree of permanency.
- A policy should be formulated to cover all reasonable anticipatable conditions.
- A policy should be founded upon facts and sound judgment.
- A policy should conform to economic principles, statutes and regulations.
- A policy should be a general statement of the established rule.

Importance of Policies

Policies are useful for the following reasons:

- They provide guides to thinking and action and provide support to the subordinates.
- They delimit the area within which a decision is to be made.
- They save time and effort by pre-deciding problems and
- They permit delegation of authority to managers at the lower levels.

4.3.2 PROGRAMME

Programmes are detailed statements about a project which outlines the objectives, policies, procedures, rules, tasks, human and physical resources required and the budget to implement any course of action. Programmes will include the entire gamut of activities as well as the organization's policy and how it will contribute to the overall business plan. The minutest details are worked out i.e., procedures, rules, budgets, within the broad policy framework. A programme is a broad term which includes goals, policies, procedures, rules and steps to be taken in putting a plan into action.

Terry and Franklin define program as "*a comprehensive plan that includes future use of different resources in an integrated pattern and establishes a sequence of required time schedules for each in order to achieve stated objectives*". Thus, a programme includes objective, policies, procedures, methods, standards and budgets. For instance, launching Prithvi satellite is a program "Jawahar Rojgar Yojana" is a programm. Program may be major or minor. For instance, a company may embark upon modernization program of the plant and machinery and other manufacturing systems in a big way. By all means such an effort is a major program. Similarly, a large organization may start computerizing all its activities. On the other hand, modernization of small equipment in some section of the factory and computerization of a particular operation in a certain department may be considered as a minor program.

4.3.3 STRATEGY

The term 'Strategy' has been adapted from war and is being increasingly used in business to reflect broad overall objectives and policies of an enterprise. Literally speaking, the term 'Strategy' stands for the war-art of the military general, compelling the enemy to fight as per out chosen terms and conditions. A strategy is a special kind of plan formulated in order to meet the challenge of the policies of competitors. This type of plan uses the competitors' plan as the background. It may also be shaped by the general forces operating in an industry and the economy. Edmund P Learned has defined strategies as "the pattern of objectives, purposes or goals and major policies and plans for achieving these goals, stated in such a way as to define what business the company is in or is to be and the kind of company it is or is to be". Haynes and

Massier have defined strategy as "the planning for unpredictable contingencies about which fragmentary information is available".

A strategy provides the broad contours of an organization's business. It will also refer to future decisions defining the organizations direction and scope in the long run. Thus, we can say a strategy is a comprehensive plan for accomplishing an organization objective. This comprehensive plan will include three dimensions, (i) determining long term objectives, (ii) adopting a particular course of action, and (iii) allocating resources necessary to achieve the objective. Whenever a strategy is formulated, the business environment needs to be taken into consideration. The changes in the economic, political, social, legal and technological environment will affect an organization's strategy. Strategies usually take the course of forming the organization's identity in the business environment. Major strategic decisions will include decisions like whether the organization will continue to be in the same line of business, or combine new lines of activity with the existing business or seek to acquire a dominant position in the same market. For example, a company's marketing strategy has to address certain questions i.e., who are the customers? What is the demand for the product? Which channel of distribution to use? What is the pricing policy? And how do we advertise the product. These and many more issues need to be resolved while formulating a marketing strategy for any organization.

Characteristics of Strategy

- (1) It is the right combination of different factors.
- (2) It relates the business organization to the environment.
- (3) It is an action to meet a particular challenge, to solve particular problems or to attain desired objectives.
- (4) Strategy is a means to an end and not an end in itself.
- (5) It is formulated at the top management level.
- (6) It involves assumption of certain calculated risks.

Strategy Formulation

There are three phases in strategy formation

- Determination of objectives.
- Ascertaining the specific areas of strengths and weakness in the total environment.
- Preparing the action plan to achieve the objectives in the light of environmental forces.

Business Strategy

Seymour Tiles offers six criteria for evaluating an appropriate strategy.

Internal consistency: The strategy of an organization must be consistent with its other strategies, goals, policies and plans.

Consistency with the environment: The strategy must be consistent with the external environment. The strategy selected should enhance the confidence and capability of the enterprise to manage and adapt with or give command over the environmental forces.

Realistic Assessment: Strategy needs a realistic assessment of the resources of the enterprise—men, money and materials—both existing resources as also the resources, the enterprise can command.

Acceptable degree of risk: Any major strategy carries with it certain elements of risk and uncertainty. The amount of risk inherent in a strategy should be within the bearable capacity of the enterprise.

Appropriate time: Time is the essence of any strategy. A good strategy not only provides the objectives to be achieved but also indicates when those objectives could be achieved.

Workability: Strategy must be feasible and should produce the desired results.

In most (large) corporations there are several strategies that are formulated and implemented in various departments due to varied objectives.

1. **Corporate strategy:** Corporate strategy refers to the overarching strategy of the diversified firm. Such a corporate strategy answers the questions of “in which businesses should we be in?” and “how does being in these business create synergy and/or add to the competitive advantage of the corporation as a whole?”

2. **Business strategy:** Business strategy refers to the aggregated strategies of single business firm or a Strategic Business Unit (SBU) in a diversified corporation. According to Michael Porter, a firm must formulate a business strategy that incorporates cost leadership, differentiation or focus in order to achieve a sustainable competitive advantage and long term success in its chosen arenas or industries.

3. **Functional strategies:** Functional strategies include marketing strategies, new product development strategies, human resource strategies, financial strategies, legal strategies, supply-chain strategies, and information technology management strategies. The emphasis is on short and medium term plans and is limited to the domain of each department's functional responsibility. Each functional department attempts to do its part in meeting overall corporate

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objectives, and hence to some extent their strategies are derived from broader corporate strategies. Many companies feel that a functional organizational structure is not an efficient way to organize activities so they have reengineered according to processes or SBUs. A strategic business unit is a semi-autonomous unit that is usually responsible for its own budgeting, new product decisions, hiring decisions, and price setting. An SBU is treated as an internal profit centre by corporate headquarters.

4. **Operational strategy:** Operational strategy was encouraged by Peter Drucker in his theory of Management by Objectives (MBO). It is very narrow in focus and deals with day-to-day operational activities such as scheduling criteria. It must operate within a budget but is at liberty to adjust or create that budget. Operational level strategies are informed by business level strategies which, in turn, are informed by corporate level strategies. Since the turn of the millennium, some firms have reverted to a simpler strategic structure driven by advances in information technology. It is felt that knowledge management systems should be used to share information and create common goals. Strategic divisions are thought to hamper this process. This notion of strategy has been captured under the rubric of dynamic strategy, popularized by Carpenter and Sanders's textbook. This work builds on that of Brown and Eisenhart as well as Christensen and portrays firm strategy, both business and corporate, as necessarily embracing ongoing strategic change, and the seamless integration of strategy formulation and implementation. Such change and implementation are usually built into the strategy through the staging and pacing facets.

Reasons why a Strategy Fails

There are many reasons why strategic plans fail, especially:

1. **Failure to understand the customer:** Examples: (a) Why do they buy? (b) Is there a real need for the product? (c) Inadequate or incorrect marketing research.
2. **Inability to predict environmental reaction:** The reasons may involve many things Examples: (a) Failure to forecast what will the competitors do, whether the government will intervene (b) Fighting brands (c) Price wars.
3. **Over-estimation of resource competence:** The managers should be able to estimate the following correctly so as to avoid the over estimation of resource competence. (a) Can the staff, equipment, and processes handle the new strategy (b) Failure to develop new employee and management skills.

4. **Failure to coordinate:** The reasons for this may be the following: (a) Reporting and control relationships not adequate (b) Organizational structure not flexible enough.
5. **Failure to obtain senior management commitment:** The reasons for this may be the following: (a) Failure to get management involved right from the start (b) Failure to obtain sufficient company resources to accomplish task.
6. **Failure to obtain employee commitment:** The reasons for this may be the following: (a) New strategy not well explained to employees (b) No incentives given to workers to embrace the new strategy.
7. **Under-estimation of time requirements:** The reasons for this may be no critical path analysis.
8. **Failure to follow the plan:** The reasons for this may be the following: (a) No follow through after initial planning (b) No tracking of progress against plan (c) No consequences for above
9. **Failure to manage change:** The reasons for this may be the following: (a) Inadequate understanding of the internal resistance to change (b) Lack of vision on the relationships between processes, technology and organization.
10. **Poor communications:** The reasons for this may be the following: (a) Insufficient information sharing among stakeholders (b) Exclusion of stakeholders and delegates.

4.3.4 VISION

Vision Statement While the mission statement answers "What is the purpose today?," the vision statement answers "Where is our purpose headed in the future?" Knowing where you are and where you're going is a vital combination for organizational success. Just as the mission statement is designed to utilize the right-brain, emotional energy of individuals, so too does the vision statement provide motivation. The motivation supplied through the vision statement differs from the mission statement in that it represents aspiration, or that which is yet to be realized. Whereas the mission statement represents the purpose being lived out today, the vision statement represents the purpose as a goal still to be achieved. Robert Greenleaf, in his work *Servant Leadership*, defines vision in the following manner, "...the overarching purpose, the big dream, the overarching concept...something presently out of reach...so stated that it excites the imagination and challenges people to work for something they do not yet know how to do." The future purpose of the organization is described through a vision statement. The vision statement

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creates a mental picture of what the purpose of the organization will look like in the future. The vision statement provides two things: strategic guidance and motivational focus. As the vision statement represents the future purpose, the strategic thinking that goes into creating it ensures that it represents the best use of the organization's resources in reaching its objectives. It serves to align individuals from different functional areas and geographic locations to move toward the same future purpose, allowing them to use their creativity and talents to get from "here to there." In this sense, it guides actions that are not necessarily geared toward the short-term by showing the desired longer-term future and the benefits of realizing that future.

Criteria for a Vision Statement: There are following six characteristics of a sound vision statement.

- Imaginable: It needs to paint a visual picture of the desired future in the minds of those who read it.
- Desirable: It should appeal to the people that are striving to reach it and the customers they are serving.
- Feasible: While aspiration in nature, it needs to articulate a realistic and achievable future purpose.
- Focused: It should provide concentrated direction to those following it.
- Flexible: By being broad in scope, it allows for modifications due to the dynamic nature of the business environment.
- Communicable: The vision statement should be easy to articulate to others. Capturing the essence of these six characteristics in the vision statement often requires considerable thought and time.

4.3.5 MISSION

Organizations exist in society. Therefore, it is appropriate to relate their existence to society by satisfying a particular need of the society. Mission may be defined as "*a statement which defines the role that an organization plays in the society*". The terms 'mission' or 'purpose' are often used interchangeably. An organisation's mission statement includes its philosophy and basic

purpose for which it exists. It establishes the values, beliefs, and guidelines that the organization holds in high esteem. Mission statement suggests how an organization is going to conduct its business. It defines the basic intentions of the firm.

A mission is the current reason for being. Why is this organization in business? What is the marketing group's purpose? How do I contribute to the overall cause? Although a seemingly simple proposition, creating an effective mission statement can be one of the most challenging aspects of strategic thinking because it forces you to examine the very core of why. It's also one of the most overlooked parts of strategy development, as everyone assumes they are working toward the same purpose. However, the perils of this assumption cannot be underestimated. As human beings, we are driven to a great extent by our emotions. In order to take advantage of the power of the organization's emotional energy, a rationale born from this emotion is necessary to complement the financial and business reasons for work. While the paycheck is important, it only provides one side of the "why-we're-here" coin. Creating a sound current purpose addresses the other side of the coin. To generate the greatest creativity and extricate the deepest level of talent from an organization, don't tell them what to do and how to do it—tell them who they are. Defining the mission, vision and values accomplishes that task. The mission statement also serves to begin to frame the business strategy. As the scope of business, customer targets and competitive arena are addressed in the mission statement; it naturally serves to begin defining elements of the business strategy. Defining these elements also forces you to decide what not to do, one of the key characteristics of strategic thinking. It is in this process of choosing what not to do and who not to target as customers that the business focus emerges. The importance of focus was clearly articulated by the noted military historian B.L. Hart when he said: "The principles of war can be condensed into one word—concentration." One element of the mission that is often overlooked is the importance of the belief and commitment to it once it's developed. As with the United States Constitution and the Bible, a mission statement is only effective for those who believe in it. The belief then must go hand-in-hand with the commitment to follow it. A New Year's resolution statement is worthless in and of itself. It is the commitment to the New Year's resolution that matters, as evidenced by all the resolutions that have gone by the wayside. Once the organization's mission is in place, mission statements for departments and functional groups within the organization are appropriate. Mission statements at these levels tend to be more specific and more closely reflect the daily activities of the particular group. Developing

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these sub-mission statements also acts to further clarify the “why” at that level and create greater team unity—both of which make for a stronger overall organization. Sub-missions are often overlooked, but can become a powerful motivator and guide for specific functional groups or departments.

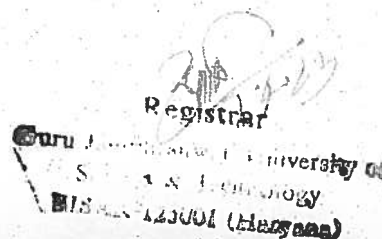
Benefits of a Mission Statement: The mission statement, or current purpose, is first and foremost one of the five key elements of strategic thinking. Without a current purpose, the crucial function of decision making has no objective basis from which to be measured. The mission statement gives everyone a baseline that guides and unifies decision making. Secondly, the mission statement ensures that different functional groups within the organization or individuals within a department have the same underlying rationale for actions. In this sense, the purpose unifies efforts and maximizes the utilization resources to reach the established goals and objectives. Acting as a compass, it ensures that everyone is pulling in the same direction. Third, it addresses the deeper, emotional component of why people do what they do for an organization or customer base. It taps into the right-brain (emotional, intuitive, visual, and synthesizing) versus the left-brain (logical, reasoning, quantitative, and analyzing). As we discussed before, the left-brain is satisfied by the paycheck; the right-brain needs something more, something that appeals to the emotional side. The mission statement acts to fulfill the emotional needs of the right-brain, creating a satisfied whole. Fourth, companies with mission statements have a higher likelihood of financial success. Research has shown that companies with a well-crafted mission statement have greater financial success and are recognized for superior quality compared to companies with poor or nonexistent mission statements. Other studies have reported firms working by a mission statement have a 30% higher return on certain financial measures than firms that lack mission statements. Not only does identifying and articulating a mission statement make common sense, it also makes financial sense. Finally, the current purpose or mission statement acts as a rallying point for people in good times and in bad times. A mission statement focuses people on the truly important things that will drive success. In difficult times, the mission statement serves as a reminder to stay on the task at hand. It also helps prevent people from becoming reactive to minor competitor moves, and instead helps them follow the course that has been set.

Criteria for a Mission Statement: In addition to being a clear and concise statement that represents the reason for being, a good mission statement should answer the following four questions: 1. what function is performed? 2. How is the function performed? 3. For whom is the function performed? 4. Why is the function performed?

What function is performed? The first question to be answered is, "What do you do?" On the surface, this may seem to be a ridiculously obvious question and answer. Give it some thought. In his landmark article entitled "Marketing Myopia," Harvard professor Theodore Levitt challenged people to step back and think about their function in a more expansive way. He argued that one of the reasons the railroad industry met with a dramatic decline is that they viewed their function as moving things by rail, when they could have defined their function more inclusively as transportation. This may have freed their minds to adapt to the changing business landscape and recreate their offering to remain a more relevant fixture in the marketplace.

How is the function performed? Strategy is inherently based on competition. When considering this second question in formulating a mission statement, assess how your competition performs the function. Then ask yourself, are we performing the function in a unique manner? If not, how long will we last before this lack of differentiation transforms our offering into a commodity?

For whom is the function performed? Who is benefiting from your function? And more importantly, who is paying for the value generated by your function? The customer group identified in the mission statement should be focused enough to allow concentration of your sales and marketing resources but broad enough to provide a sustainable source of revenue. Perhaps the single biggest sales and marketing error of "trying to be all things to all people" usually occurs because people haven't defined their market properly during the development of the mission statement. This question also helps define the market segments and the market fragments. Market segments are the groups that are divided up by the marketer based on the marketer's designated criteria. The most common segmentation criteria are demographic information; i.e., geography, age, income level, budget, etc. Market fragments, on the other hand, are initially formed by the constituents of the market themselves, not by the marketers. This occurs when a group of customers fragments, or breaks off, from a traditional segment to pursue something different. For example, when beer drinkers started turning their tastes toward the



handful of microbrew beers, the mass beer producers took notice of this trend, or market fragmentation, and capitalized on it by creating their own microbrew beers.

Why is the function performed? One of the characteristics of a good mission statement is that it captures the motivation of why you do what you do. It tugs at the emotional, right-brain component in each of us and gives that reason that keeps people interested in meeting the daily challenges to reach their goals. It also places “the job” in a larger community context and gives people a more meaningful face for their efforts. The answers to these four questions form the basis of the mission statement. In developing responses to these four questions, it’s important to be specific enough to create focus but broad enough to allow for flexibility in the day-to-day execution. When the mission statement begins to come together, it’s also important to ensure that it represents the uniqueness of the organization. The litmus test is to replace your company’s name with a competitor’s name. If the statement works with the competitor’s name inserted, you haven’t captured the unique characteristics of the organization and need to re-work it.

4.3.6 GOALS

Goals and objectives provide the foundation for measurement. Goals are outcome statements that define what an organization is trying to accomplish, both programmatically and organizationally. Goals are usually a collection of related programs, a reflection of major actions of the organization, and provide rallying points for managers. For example, Wal-Mart might state a financial goal of growing its revenues 20% per year or have a goal of growing the international parts of its empire. Try to think of each goal as a large umbrella with several spokes coming out from the center. The umbrella itself is a goal. In contrast to goals, objectives are very precise, time-based, measurable actions that support the completion of a goal. Objectives typically must (1) be related directly to the goal; (2) be clear, concise, and understandable; (3) be stated in terms of results; (4) begin with an action verb; (5) specify a date for accomplishment; and (6) be measurable. Apply our umbrella analogy and think of each spoke as an objective. Going back to the Wal-Mart example, and in support of the company’s 20% revenue growth goal, one objective might be to “open 20 new stores in the next six months.” Without specific objectives, the general goal could not be accomplished—just as an umbrella cannot be put up or down without the

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spokes. Importantly, goals and objectives become less useful when they are unrealistic or ignored. For instance, if your university has set goals and objectives related to class sizes but is unable to ever achieve them, then their effectiveness as a management tool is significantly decreased. Measures are the actual metrics used to gauge performance on objectives. For instance, the *objective* of improved financial performance can be *measured* using a number metrics, ranging from improvement in total sales, profitability, efficiencies, or stock price. You have probably heard the saying, "what gets measured, gets done." Measurement is critical to today's organizations. It is a fundamental requirement and an integral part of strategic planning and of principles of management more generally. Without measurement, you cannot tell where you have been, where you are now, or if you are heading in the direction you are intending to go. While such statements may sound obvious, the way that most organizations have set and managed goals and objectives has generally not kept up with this commonsense view.

Goals and Planning

Planning typically starts with a vision and a mission. Then managers develop a strategy for realizing the vision and mission; their success and progress in achieving vision and mission will be indicated by how well the underlying goals and objectives are achieved. A vision statement usually describes some broad set of goals—what the organization aspires to look like in the future. Mission statements too have stated goals—what the organization aspires to be for its stakeholders. For instance, Mars, Inc., the global food giant, sets out five mission statement goals in the areas of quality, responsibility, mutuality, efficiency, and freedom. Thus, goals are typically set for the organization as a whole and set the stage for a hierarchy of increasingly specific and narrowly set goals and objectives.

However, unless the organization consists of only a single person, there are typically many working parts in terms of functional areas and product or service areas. Functional areas like accounting and marketing will need to have goals and objectives that, if measured and tracked, help show if and how those functions are contributing to the organization's goals and objectives. Similarly, product and service areas will likely have goals and objectives. Goals and objectives can also be set for the way that functions and product or service areas interact. For instance, are the accounting and marketing functions interacting in a way that is productive? Similarly, is marketing delivering value to product or service initiatives?

4.3.7 OBJECTIVES

An objective is a specific step, a milestone, which enables you to accomplish a goal. Setting objectives involves a continuous process of research and decision-making. Knowledge of yourself and your unit is a vital starting point in setting objectives. Objectives may be defined as the goals which an organization tries to achieve. Objectives are described as the end-points of planning. According to Koontz and O'Donnell, "an objective is a term commonly used to indicate the end point of a management programme." Objectives constitute the purpose of the enterprise and without them no intelligent planning can take place. Objectives are, therefore, the ends towards which the activities of the enterprise are aimed. They are present not only the end-point of planning but also the end towards which organizing, directing and controlling are aimed. Objectives provide direction to various activities. They also serve as the benchmark of measuring the efficiency and effectiveness of the enterprise. Objectives make every human activity purposeful. Planning has no meaning if it is not related to certain objectives.

Strategic planning takes place at the highest levels; other managers are involved with operational planning. The first step in operational planning is defining objectives - the result expected by the end of the budget (or other designated) cycle. Setting right objectives is critical for effective performance management. Such objectives as higher profits, shareholder value, and customer satisfaction may be admirable, but they don't tell managers what to do. "They fail to specify priorities and focus. Such objectives don't map the journey ahead - the discovery of better value and solutions for the customer."

The objectives must be:

1. Focused on a result, not an activity
2. Consistent
3. Specific
4. Measurable
5. Related to time
6. Attainable

The traditional goal-setting method was developed in the late 1800s in the manufacturing industry: If you want to produce X number of units at the end of the assembly line, you need to do A, B, C, and D. While this method works well in factories, it will produce limited, short-lived

results in the business arena. The problem is that only the process is taken account with this method—there is no mention of the participant. But, for long-term success, being the right person is just as important as doing the right things. Without a significant change in our thinking, behavior and expectations, we can never develop a habit of success.

Features of Objectives

- The objectives must be predetermined.
- A clearly defined objective provides the clear direction for managerial effort.
- Objectives must be realistic.
- Objectives must be measurable.
- Objectives must have social sanction.
- All objectives are interconnected and mutually supportive.
- Objectives may be short-range, medium-range and long-range.
- Objectives may be constructed into a hierarchy.

Advantages of Objectives

- Clear definition of objectives encourages unified planning.
- Objectives provide motivation to people in the organization.
- When the work is goal-oriented, unproductive tasks can be avoided.
- Objectives provide standards which aid in the control of human efforts in an organization.
- Objectives serve to identify the organization and to link it to the groups upon which its existence depends.
- Objectives act as a sound basis for developing administrative controls.
- Objectives contribute to the management process: they influence the purpose of the organization, policies, personnel, leadership as well as managerial control.

Process of Setting Objectives

Objectives are the keystone of management planning. It is the most important task of management. Objectives are required to be set in every area which directly and vitally effects the survival and prosperity of the business. In the setting of objectives, the following points should be borne in mind.

- Objectives are required to be set by management in every area which directly and vitally affects the survival and prosperity of the business.

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- The objectives to be set in various areas have to be identified.
- While setting the objectives, the past performance must be reviewed, since past performance indicates what the organization will be able to accomplish in future.
- The objectives should be set in realistic terms i.e., the objectives to be set should be reasonable and capable of attainment.
- Objectives must be consistent with one and other.
- Objectives must be set in clear-cut terms.
- For the successful accomplishment of the objectives, there should be effective communication.

4.4 CHECK YOUR PROGRESS

- (1) Planning is a continuous..... which is unending process which indicates the different systematic procedure.
- (2) A policy is the general response to a particular..... or situation.
- (3) A strategy is a comprehensive plan for accomplishing an..... objective.
- (4) The mission statement also serves to begin to..... the business strategy.
- (5) An objective is a specific step, a milestone, which enables you to..... a goal.

4.5 SUMMARY

Planning means to look ahead and to estimate the future course of action on the basis of past experience and the present situations. Planning decides in advance the answers of the question of what to do, why to do, how to do, when to do, and who is to do it. Planning is the primary and intellectual process. It is the base of controlling. There are following Characteristics of it: Primary Function 2) Intellectual work 3) Related with Future 4) Objectives Based 5) Continuous Process 6) Base for control. There is a lot of importance of Planning like: 1) Attainment of objectives. 2) Minimizes Uncertainty. 3) Better Utilization of Resources 4) Minimizes Cost. 5)

Better Use of technology. 6) Facilitates Decision Making. 7) Facilitates to control. There are different steps in planning process like 1) Estimating professional opportunities 2) Setting of objectives. 3) Forecasting 4) Establishing the sequence of activities 5) Determining of Alternative courses 6) Selection of Alternative courses 7) Budgeting 8) Follow-Up. There are different types of plans. Policies are general statements that explain how a manager should attempt to handle routine management responsibilities. Programmes are detailed statements about a project which outlines the objectives, policies, procedures, rules, tasks, human and physical resources required and the budget to implement any course of action. A strategy is a special kind of plan formulated in order to meet the challenge of the policies of competitors.

4.6 KEYWORDS

Planning: Planning is selecting information and making assumptions regarding the future to formulate activities necessary to achieve organizational objectives.

Policy: Policies are general statements that explain how a manager should attempt to handle routine management responsibilities.

Programme: Programmes are detailed statements about a project which outlines the objectives, policies, procedures, rules, tasks, human and physical resources required and the budget to implement any course of action.

Strategy: A strategy is a special kind of plan formulated in order to meet the challenge of the policies of competitors.

Vision: The vision statement creates a mental picture of what the purpose of the organization will look like in the future.

Mission: Mission statement suggests how an organization is going to conduct its business. It defines the basic intentions of the firm.

Goals: Goals are outcome statements that define what an organization is trying to accomplish, both programmatically and organizationally.

Objectives: An objective is a term commonly used to indicate the end point of a management programme.

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4.7 SELF-ASSESSMENT TEST

- Q1. What is planning? Give its characteristics.
- Q2. What is the importance of planning?
- Q3. What are the functional types of planning?
- Q4. Explain the steps involved in planning process.
- Q5. Write a short note on the following:
- Policy
 - Programmes
 - Vision
 - Mission
 - Goals and Objectives

4.8 ANSWERS TO CHECK YOUR PROGRESS

- (1) Process
- (2) Problem
- (3) Organization
- (4) Frame
- (5) Accomplish

4.9 REFERENCES/SUGGESTED READINGS

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Course: - Management Process and Organizational Behavior

Course Code: MBA-101

MBA 1st Sem.

Lesson No.	Lesson
1	Introduction to Management
2	Evolution of Management Thoughts
3	Social Responsibility
4	Planning
5	Decision Making
6	Organising
7	Authority and Responsibility
8	Staffing
9	Directing
10	Leadership
11	Motivation
12	Communication
13	Controlling
14	Coordination
15	Organizational Behaviour
16	Organisational Culture and Climate
17	Understanding Human Behaviour
18	Personality
19	Perception
20	Attitudes
21	Learning and Values
22	Interpersonal and Group Dynamics
23	Transactional Analysis
24	Emotional Intelligence
25	Conflict Management
26	Stress Management

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Table of Contents**Course: - Business Statistics****Course Code: MBA-102****MBA 1stSem**

Lesson No.	Lesson
1.	An Introduction to Business Statistics
2.	An Overview of Central Tendency
3.	Dispersion and Skewness
4.	Probability Theory
5.	Probability Distributions-I
6.	Probability Distributions-II
7.	Sampling and Sampling Methods
8.	Sampling Distributions
9.	Statistical Estimation
10.	Testing of Hypotheses
11.	Non-Parametric Tests
12.	Correlation Analysis
13.	Regression Analysis
14.	Analysis of Time Series
15.	Index Number
16.	Statistical Quality Control

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Table of Contents**Course: - Managerial Economics****Course Code: MBA-103****MBA 1stSem**

Lesson No.	Lesson
1.	Introduction to Economic Analysis
2.	Fundamental Economic Concepts
3.	Law of Demand
4.	Elasticity of Demand
5.	Cardinal Analysis
6.	Ordinal Analysis
7.	Cost Concept
8.	Production Function
9.	Price Determination: Perfect Competition and Monopoly
10.	Price Determination: Monopolistic Competition and Oligopoly
11.	Bamoul's Theory of Sales Maximization
12.	Managerial Theory
13.	Behavioural Theory
14.	National Income Concepts
15.	Measurement of National Income

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Table of Contents**Course: - Accounting For Managers****Course Code: MBA-104****MBA 1stSem**

Lesson No.	Lesson
1.	Financial Accounting: Scope and Importance
2.	Accounting Concepts and Conventions
3.	Accounting Process: Preparation of Journal and Ledger
4.	Trial Balance
5.	Depreciation Accounting and Policy
6.	Understanding and Analysing Published Financial Statements of Companies
7.	Cost Accounting
8.	Budget and Budgetary Control
9.	Management Accounting
10.	Cash Flow Statement Analysis
11.	Ratio Analysis
12.	Marginal Costing
13.	Practical Application of Marginal Costing
14.	Standard Costing

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Course: - Business Environment

Course Code: MBA-105

MBA 1stSem

Lesson No.	Lesson
1.	Business Environment and Types of Business Environment
2.	Environmental Scanning and risk assessment
3.	Concepts of Economic System
4.	New Industrial Policy-1991 and Recent financial and economic reforms in India
5.	Fiscal and Monetary policy in India and their impact on business environment
6.	Kinds of Business Environment and emerging sectors of Indian economy.
7.	Privatization in India: Public Private partnership
8.	Challenges and opportunities in rural sectors
9.	Global Business Environment
10.	Opportunities and challenges for MNCs in India
11.	Foreign investment in India
12.	Indian foreign trade and its impact on balance of payment
13.	Exchange rate movements and India's competitiveness in the world economy
14.	World trade trends and economic integration
15.	Contemporary issues: Climate Change, Food security, Geopolitics, Sustainable development, and De- Globalization
16.	Legislations for social responsibilities and their influences on Business Environment. <ol style="list-style-type: none"> 1. Consumer protection act, 1986 and its amendments. 2. Competition Act 2002 and its amendments. 3. Environmental Protection Act, 1986. 4. Foreign exchange management act, 1999(FEMA)

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Table of Contents**Course: - Business Communication****Course Code: MBA-106****MBA 1stSem**

Lesson No.	Lesson
1.	Business Communication: An Introduction
2.	Principles for Effective Communication
3.	Dimensions and Network of Communication including grapevine
4.	Verbal and Non- Verbal Communication
5.	Cross Cultural Communication
6.	Essentials of Effective Business Correspondence
7.	Business Letter
8.	Company Correspondence: Report Writing
9.	Introduction to Plagiarism
10.	Notices, Circulars, Office Orders, Memos, Representations, Employee Newsletters
11.	Presentation and Public Speaking
12.	Listening Skills
13.	Resume Writing
14.	Interviews
15.	Meetings, Agenda and Minutes
16.	Group Discussion
17.	Electronic Mail and Telephone Etiquettes

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Course: - Marketing Management

Course Code: MBA-201

MBA-2nd SEM.

Lesson No.	Lesson
1	Marketing: Nature, Scope, Concept and Corporate orientations towards the marketplace
2	Marketing Mix and Understanding 4 A's of Marketing
3	Marketing Environment and Environment Scanning
4	Marketing Information System and Marketing Research
5	Understanding Consumer and Industrial Markets
6	Market segmentation, Targeting and Positioning
7	Product decisions: Product concept and classification, Product mix and Product life cycle
8	Product decisions: New Product Development
9	Product branding, Packaging and Labeling decisions
10	Pricing decisions: Factors affecting pricing decisions, Setting the price; Pricing strategies and methods
11	Distribution Channels and Logistics Management: Nature, types and role of Intermediaries; Channel design decisions
12	Channel behaviour and organization, Channel management decisions, Logistics management decisions
13	Marketing Communication and promotion decisions: Factors influencing promotion mix and Advertising decisions
14	Sales force management; Sales promotions; Personal Selling; Publicity and Public relations
15	Holistic Marketing: Trends in marketing practices, Internal marketing, Socially responsible marketing
16	Marketing implementation and control
17	New issues in marketing-Globalization, Consumerism, Green Marketing
18	Direct Marketing, Network Marketing, Event Marketing; Ethics in Marketing

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Table of Contents**Course: - Human Resource Management****Course Code: MBA-202****MBA-2nd sem.**

Lesson No.	Lesson
1	Introduction to HRM: Concepts, Perspectives and HRM in a changing environment
2	Managerial and Operative Functions of HRM
3	HRP and Job Analysis
4	Recruitment methods and Strategies
5	Selection Process and Strategies
6	Placement, Induction, Separation Practices and Socialization
7	Training and Development: Concept and Methods
8	Retention, Retention strategy and HR Accounting
9	Performance Appraisal and Potential Evaluation
10	Career and Succession Planning; Talent Management
11	Compensation Management; Incentives and Employee Benefits
12	Job Evaluation
13	Employee Welfare and Industrial Relation
14	HR Audit

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Table of Contents**Course: - Financial Management****Course Code: MBA-203****MBA-2nd SEM.**

Lesson No.	Lesson
1	Introduction to Financial Management and risk-return framework for financial decision-making
2	Time value of money
3	Capital Budgeting Decisions and risk analysis in capital budgeting
4	Capital Structure Decisions
5	Optimal capital structure
6	Sources of long term finance
7	Sources of short term finance
8	Cost of Capital
9	Working Capital Management
10	Inventory management
11	Receivables and cash management
12	Financing working capital
13	Dividend Policy
14	Theories and types of Dividend Policy
15	An overview of Corporate Restructuring

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Table of Contents**Course: - Production and Operations Management****Course Code: MBA-204****MBA-2nd SEM.**

Lesson No.	Name of Lesson
1	Nature and Scope of Production and Operations Management
2	Facility Location and Plant Location
3	Plant Layout: Layout Planning and Analysis
4	Production Planning: Capacity Planning, Aggregate Planning, Master Production Scheduling and Material Requirement Planning
5	Maintenance Management; Inventory control
6	An overview of Material Management
7	Purchase Management and Just in Time
8	Material Handling
9	Scheduling: Gantt Charts and Sequencing
10	Quality Control
11	Work Study

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Course: - International Business

Course Code: MBA-205

MBA-2nd sem.

Lesson No.	Lesson
1	Evolution and Development of International Business
2	International Business Environment and Factors leading to growth in IB
3	Modes of International Business
4	An overview of International trade theories
5	Commercial Policy Instruments: Tariff and Non-Tariff Measures and their Impact
6	Balance of Payment Account, Foreign Direct Investment and International Financial Environment
7	Foreign Exchange Rates and Management of exchange rate
8	Organizational structure for International Business
9	International Marketing Management and International Financial Management
10	International Production Management and International HRM
11	International Business Negotiations
12	Recent developments and issues in IB
13	Multinational Corporations(MNCs)
14	Technology transfers, Strategic Alliances, Mergers and Acquisitions
15	Foreign Trade Promotion and Indian Joint Ventures Abroad
16	Multilateral regulation of trade and investment: IMF, World Bank, WTO, UNCTAD and Regional Economic Cooperation



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Course: - Management Science

Course Code: MBA-206

MBA-2nd sem.

Lesson No.	Lesson
1	Introduction to Management Science
2	Linear Programming- Graphical Method
3	Linear programming- Simplex Method
4	Dual Linear Programming Problems Transportation Problem
5	Sensitivity Analysis in Linear Programming Problems
6	Transportation Model
7	Assignment Model
8	Queuing Theory
9	Inventory Management
10	Network Design, Critical Path Method and PERT
11	Calculation of Float in Network Diagramme
12	Game Theory- Basic concepts in game theory
13	Game Theory- Dominance rule
14	Decision Theory
15	Introduction to Goal, Integer and dynamic Programming

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Course: - Business Research Methods

Course Code: MBA-207

MBA-2nd sem.

Lesson No.	Lesson
1	Introduction to Research
2	Types of Research and Process of Research
3	Scientific Method, Theory Building and Types of Variables; Introduction to Exploratory Research and Experimental Research
4	Problem Definition
5	Research Designs
6	Methods of Data Collection
7	Questionnaire Design
8	Sampling Design
9	Measurement and Scaling concepts and Basic concepts of Reliability and Validity
10	Data Analysis: Descriptive Statistics and Univariate Statistics
11	Bivariate Statistics: Test of Difference and Measures of Association; Introduction to Multivariate Analysis
12	Report Writing

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Table of Contents**Course: - Strategic Management****Course Code: MBA-301****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Nature of Strategic Management: Dimensions, benefits & risks and process; Establishment of Strategic Intent
2.	The Environment Appraisal: porters five force analysis, industry and competitive analysis and environmental scanning
3.	Organizational Appraisal
4.	Corporate Level Strategies
5.	Business Level Strategies
6.	Strategic Implementation: Activating strategies, nature, barrier and model for strategy implementation, resource allocation.
7.	Structural Implementation: Types of organizational structures, organizational design and change. Behavioural Implementation: strategic leadership, corporate culture
8.	Strategic Evaluation and Control: Nature and techniques for strategic control

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Table of Contents**Course: - Management of Industrial Relations****Course Code: HRM-301****MBA-3rd Sem.**

Lesson No.	Lesson
1	Industrial Relations Perspectives, IR in the Emerging Socio-Economic Scenario
2	Industrial Relations and the State - Legal Framework
3	Trade Unions - Role and Future
4	Discipline and Grievance Management
5	Negotiation and Collective Settlement
6	Participative Management
7	Employee Empowerment
8	Quality Management: An Introduction
9	Industrial Relations and Technological Change


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Table of Contents**Course: - Human Resource Planning****Course Code: HRM-302****MBA-3rd Sem.**

Lesson No.	Lesson
1	Human Resource Planning
2	Job Analysis, Job Evaluation and Job Design
3	Recruitment Methods and Strategies
4	Selection Process and Strategies
5	Placement, Induction, Socialization, Separation and Retention Practices
6	Training and Development
7	Productivity Management
8	Human Resource Audit and Human Resource Information System
9	Human Resource Accounting

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Course: - Leadership Dynamics

MBA 3rd Sem.

Lesson No.	Lesson
1.	Leadership Dynamics: Concept, Leadership and Management, Leadership and Power
2.	Trait Approach and Skill Approach
3.	Contingency Approach and Path Goal Approach
4.	Behavioural Approach and Situational Approach
5.	Leadership styles: Autocratic, Democratic, Supportive and free-rein, Building Effective Leadership Styles and Comparative Analysis of Different Styles
6.	Multicultural Leadership and Team Leadership
7.	Successful Leadership vs. Effective Leadership and Leadership Styles of Famous Personalities
8.	Charismatic Leadership and Women Leadership
9.	Transactional and Transformational Leadership
10.	Servant Leadership and Ethics in Leadership

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Table of Contents**Course: - Training and Development****Course Code: HRM-308****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Introduction to Training and Development: Concept, Objectives, Types and Importance, Role of Training and Development in HRD
2.	Role, Responsibilities and Challenges of Training Manager, Strategic Training , Overview of Training Process
3.	Assessment: Training Needs Assessment, Objectives Setting
4.	Learning: Theories and Program Design, Principles of Adult Learning
5.	Training Methods, Role of Technology in Training
6.	Training Aids and Training Climate
7.	Evaluation: Concept, Process of Evaluation, Evaluation Design, Training Effectiveness
8.	Transfer of Training, Future of Training and Development

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Table of Contents**Course: - Security Analysis****Course Code: FM-302****MBA-3rd Sem.**

Lesson No.	Lesson
1	Introduction to Security Analysis
2	Risk and Return Concepts
3	New Issue Market (NIM)
4	Stock Exchanges in India - Operations
5	Listing of Securities
6	Stock Brokers and Other Intermediaries
7	Stock Market Indices
8	Investment Alternatives
9	Government Securities
10	Valuation of Fixed Income Securities or valuation of Bonds
11	Valuation of Variable Income Securities or Equity Share Valuation
12	Fundamental Analysis - I
13	Fundamental Analysis - II
14	Technical Analysis
15	Efficient Market Hypothesis
16	Portfolio Construction
17	Portfolio Construction

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Table of Contents**Course: - Project Management****Course Code: FM-303****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Introduction to Project Management
2.	Project Capital Budgeting Decision
3.	Project Planning
4.	Market and Demand Analysis
5.	Technical and Financial Analysis
6.	Analysis of Project risk, Market risk and firm risk
7.	Social Cost Benefit Analysis
8.	Multiple Projects and Constraints
9.	Network Techniques for Project Management
10.	Project Financing in India

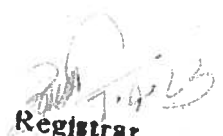

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Table of Contents**Course: - Management of Banks and Financial Institutions****Course Code: FM-304****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Introduction to Financial System and Economic Development
2.	Overview of Indian Financial System
3.	Commercial Bank: Functions, structure and recent development
4.	Management of Commercial Bank: ALM
5.	Assessment and management of risk and return in financial institutions: ALM
6.	Capital Adequacy in Indian Banks
7.	Concept of Non-Performing Assets (NPAs)
8.	Management of Financial Institution
9	Working of IFCI, ICICI and IDBI
10	Working of UTI and Mutual Funds in India
11	RBI Role
12	Insurance Industry in India

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**Guru Jambheshwar University of
Science & Technology
Hisar-125001 (Haryana)**

Table of Contents**Course: - Public Finance****Course Code: FM-306****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Nature and Scope of Public Finance; Principle of maximum social advantage
2.	Public Revenue- General Considerations: Division, incidence, classification, choice and effect of taxation; Indian Taxation System and its key issues
3.	Public Debt; Debt Management; Public expenditure and Public Budget
4.	Balance Budget & Fiscal Policy; Comments on recent central government budget
5.	Indian Public Financial System: Historical Background, Financial Federalism under constitution
6.	Indian Federal Finance; Public debt in India: Central and states Government debt
7.	Expenditure trends expenditure policy, Suggestions for reforming the budget, trends in receipts, Railway Finances
8.	Financial autonomy & accountability of public sector; States & Local Finances; Investment policy of public sector in India: financial, economic and social appraisal
9.	Financial control; Legislative and Executive Accounting and Auditing System in India; Role of CAG; Contemporary issues in Government Finances

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Dr. Jambheshwar University of
Science & Technology
Bikaner-334001 (Rajasthan)

Table of Contents**Course: - Consumer Behavior****Course Code: MM-301****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Consumer Behaviour: Introduction, Roots and Interrelationship with Marketing Strategy
2.	Consumer Research: Process, Tools, Types and Relevance
3.	Consumer Needs & Motivation, Personality & Consumer Behaviour and Consumer Perception & Information Processing
4.	Learning & Consumer Involvement and Consumer Attitude
5.	Group Dynamics and Consumer Behaviour: Reference Groups, The Family and Social Class
6.	Group Dynamics and Consumer Behaviour: Influence of Culture and Sub cultural Aspects on Consumer' Mind Set
7.	Personal Influence & the Opinion Leadership and Diffusion of Innovations
8.	Consumer Decision Making and Current Trends & Ethical Issues in Consumer Behavioural Studies

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**Dr. Jambheshwar University of
Science & Technology
(Warananagar, Warananagar)**

Table of Contents**Course: - Marketing Research****Course Code: MM-302****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Introduction to Marketing Research
2.	Problem Defining and Research Design
3.	Methods of Data Collection
4.	Attitude Measurement and Scaling Techniques
5.	Sampling Design
6.	Applications of Marketing Research
7.	Data Analysis and Hypothesis Testing
8.	Multivariate Analysis
9.	Report Preparation and Presentation
10.	Marketing Information System

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Guru Jambheshwar University of
Science & Technology
Hisar-125001 (Haryana)

Table of Contents**Course: - Sales and Distribution Management****Course Code: MM-304****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Sales Management: An Overview
2.	Sales Territories
3.	Sales Quota
4.	Recruitment and Selection
5.	Compensation and motivation of sales personnel
6.	Sales Meeting and contests
7.	Sales Control and Cost Analysis
8.	Supervision and evaluation of sales-force
9.	Distribution channel, Designing distribution channel


Register**Guru Jambheshwar University of
Science & Technology
JBAK-120001 (Jalandhar)**

Table of Contents

Course: - Marketing of Services

Course Code: MM-306

MBA 3rd Sem.

Lesson No.	Lesson
1.	Concept and Nature of Service
2.	Marketing mix for services
3.	Service product development
4.	Service consumer behaviour
5.	Packaging, Branding and advertising for services
6.	External and internal marketing
7.	Service failure and recovery
8.	Quality management in services
9.	Managing the productivity Services
10.	Marketing of financial services
11.	Interactive and relationship marketing


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Guru Jambheshwar University of
Science & Technology
Hisar-125001 (Haryana)

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Table of Contents

Course: - Product and Brand Management

Course Code: MM-307

MBA 3rd Sem.

Lesson No.	Lesson
1.	Branding: Introduction and Concept
2.	Branding Decisions
3.	Building and Managing Brand Equity
4.	Strategic Brand Management
5.	Legal Dimension of Branding
6.	Implementing Branding Strategies
7.	Developing Products and Brands
8.	Branding in Changing World



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Guru Jambheshwar University of
Science & Technology
(Jindal Group of Institutions)

Table of Contents**Course: - Export-Import Procedures and Documentation****Course Code: IB-302****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Export Preliminaries and Aligned Documentation System (ADS)
2.	Export Contracts: Major Laws, Elements and Dispute Settlement
3.	Role of ICC, INCOTERMS and Containerization
4.	Export Order Processing; Shipping and Custom Clearance of Export and Import Cargo; Central Excise Clearance
5.	Roles of Agents, Types of Risk; Cargo Insurance and claim Procedures
6.	Methods of Payment in International Trade
7.	Main Provisions of FEMA: Procedures and Documentation

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Guru Jambheshwar University of
Science & Technology
BILAH-125001 (Haryana)

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Table of Contents

Course: - India's Foreign Trade & Policy

Course Code: IB-303

MBA 3rd Sem.


Lesson No.	Lesson
1.	India's Foreign Trade: Recent Trends and Directional Pattern in Global Context; Objectives of foreign trade policy
2.	Structure and Equilibrium of India's BOP, Major Exports and Imports, Prohibited and Restricted items
3.	MEIS; SEIS; EPCG scheme; Schemes for exporters for gems and Jewellery
4.	Duty exemption/remission scheme: DFIA, deemed exports
5.	Role of State Trading Organization, Specific Service Institutions, Quality complaints and other trade disputes
6.	Role of EXIM bank of India, Export Promotion Councils, Role of central Board of excise and custom, Role of WTO in India's Foreign Trade Policy
7.	SEZ, Agriculture Export Zones, EHTPS, STPS scheme and BTPS
8.	Ministry of Commerce and Role of DGFT in India's Trade Policy

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Hisar-125001 (Haryana)

Table of Contents**Course: - Global Marketing****Course Code: MM-401/IB-304****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Concept and Introduction of Services and Technology
2.	Important Service Industries
3.	Focus on the Customers
4.	Relationship Development Strategies
5.	Aligning Service Design and standards
6.	Customer Defined Services
7.	Delivering and Performing Services
8.	Strategies for matching demand and capacity


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Science & Technology
HISAK-123001 (Haryana)

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Course: - International Logistics

Course Code: IB-305

MBA 3rd Sem.

Lesson No.	Lesson
1.	Logistics: Concept, objectives and scope; Logistics interface with marketing
2.	Logistics system element, Relevance of International Logistics, Logistics as a strategic resource, Principles of Logistics excellence
3.	General structure of shipping industry: characteristics, linear and tramp operations; Linear conferences
4.	Freight structure and practices; charting principles; UN convention on shipping
5.	Development in Ocean transportation: Containerization: Inland container depots; Multi Modal transportation and CONCOR; Highlights of Multi Modal Transport of Goods Act 1993
6.	Role of intermediaries including freight forwarders, shipping agents, Freight brokers and stevedores
7.	Port Organization and management: Responsibilities of Port Trust: Major parts of India
8.	IMO, INCOTERMS, Air transport Management, air Cargo Tariff structure


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Hisar-125001 (Haryana)

Table of Contents**Course: - Risk Management in International Business****Course Code: IB-307****MBA 3rd Sem.**

Lesson No.	Lesson
1.	The concept of Risk and Benefit of Risk Management
2.	Country Risk Analysis, Cultural diversity and MNCs
3.	Financial risk management and Management of Credit Risk
4.	Political risk and its management, Foreign Exchange Risk Management
5.	Risk Management through Derivative: Swaps, Forwards, Futures, Options, Option prices models
6.	Interest rate derivatives, Foreign currency derivatives
7.	Concept of value at risk, Approaches for calculating value at risk, Introduction to assets liability management
8.	Organizational and Accounting issues in Management. Case studies in risk management



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Hisar-125001 (Haryana)

Table of Contents**Course: - Purchase and Materials Management****Course Code: POM-301****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Purchasing and Materials Management
2.	Determination and Description of Material Quantity (MRP and JIT)
3.	Receiving and Incoming Quality Inspection
4.	Acceptance Sampling Plans
5.	Vendor Process Capability and Material Handling
6.	Cost-Reduction Techniques : Standardization, Simplification & Variety Reduction
7.	Value Analysis & Engineering
8.	Make or Buy Decisions: Appraisal Methods for Buying Capital Equipment
9.	Price Determination and Negotiation
10.	Evaluating Suppliers' Efficiency: Vendor Rating, Selection and Development
11.	Legal Aspects of Purchasing: Public Purchasing and Tendering & International Purchasing
12.	Material Logistics & Warehousing Management: Store Layout


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School of Technology
HISAK-125001 (Haryana)

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Table of Contents

Course: - Total Quality Management

Course Code: POM-302

MBA 3rd Sem.

Lesson No.	Lesson
1.	Concepts of Quality, Total Quality and Total Quality Management
2.	Approaches of Total quality and cost of quality
3.	Designing Organisation for Quality and Quality Policy
4.	Contribution of TQM by W.E. Deming, Joseph M. Juran & Philip Crosby and Kaoru Ishikawa
5.	Quality Planning: Understanding customers and their needs
6.	Quality of Purchased Materials: Determinants and description
7.	Quality of Manufacturing Process
8.	Quality control & control charts
9.	Test of significance
10.	Business Process Reengineering
11.	Total Productivity Management
12.	JIT, ISO-9000 and Quality Audit



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HISAB-125001 (Haryana)

Table of Contents**Course: - Supply Chain Management****Course Code: POM-303****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Logistics Management: Definition, Types, Automation and Outsourcing
2.	Concept in Logistics and Physical Distribution- Distribution and Inventory
3.	Types of Inventory Control-Demand Forecasting, Routing, Warehouse Management
4.	Distribution Channel Management, Distribution Resource Planning (DRP), Logistics in 21 st Century
5.	Supply Chain Management: Nature, Concept, Importance of Supply chain
6.	Value chain, Need for supply chain, Participants in supply chain- Global applications
7.	Role of a manager in supply chain-Supply chain Performance Drivers
8.	Key Enablers in Supply Chain Improvement, Levels of supply chain improvement


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Science & Technology
Hisar-125001 (Haryana)**

Table of Contents**Course: - Service Operations Management****Course Code: POM-304****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Matrix of Service characteristics: Challenges in Operations Management of Services: Aggregate Capacity Planning for Services
2.	Facility Location and Layout for Services
3.	Job Design-Safety and Physical Environment; Effect of Automation
4.	Operations Standards and Work Measurement
5.	Measurement and Control of Quality of Services; Dynamics of Service Deliver System
6.	Scheduling for Services Personnel and Vehicles; Waiting Line Analysis
7.	Distributions of Services; Product-Support Services; Maintenance of Services
8.	Inventory control for Services: Case Studies on Professional Services

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Guru Jambheshwar University of
Science & Technology
Hisar-125001 (Haryana)

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Course: - Technology Management

Course Code: POM-305

MBA 3rd Sem.

Lesson No.	Lesson
1	Introduction: Definition, Characteristics of Technology, Market & Resource Based view, Concept and significance of management of technology, Dynamics, Forms and Process of Technological Change
2	Components and Dynamics of Change; recent developments in Technological environment
3	Technology supply and Research & Development Management; Managing hi-tech products; Principles and Process of Product Development
4	Managing R&D Organization: Issues and Trends; IPR
5	Technological Forecasting: Meaning, Significance and Techniques
6	Process and application of Techniques like Delphi, Growth curves, S-curve, Pearl curve and Gompertz curve
7	Meaning and Importance of Technology Intelligence, Technology strategy: Meaning, principles and framework
8	Technology strategy types; Linkage of technology strategy with business strategy, Issues in technology strategy


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Science & Technology
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Table of Contents**Course: - E-Commerce Applications****Course Code: ITM-301****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Introduction to E-Commerce
2.	Framework of E-Commerce
3.	Internet Service Provider
4.	Internet and World Wide Web
5.	Electronic Payment Systems
6.	E-Commerce and Banking Industry
7.	E-Commerce and Retail Industry
8.	Electronic Commerce and Online Publishing
9.	Digital Copyright
10.	Intranet and Supply Chain Management
11.	Intranets and Customer Asset Management
12.	Intranet and Manufacturing
13.	Intranet and Corporate Financing

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Science & Technology
418A16-125001 (Harvard)

Table of Contents**Course: - Internet and Web Designing****Course Code: ITM-302****MBA 3rd Sem.**

Lesson No.	Lesson
1.	WWW: Introduction, evolution, features; concept of web-site and browsers, introduction to WWW servers
2.	FTP: Introduction, Business applications, software, types of FTP server, FTP clients, Telnet
3.	Web Browsers: features, bookmarks, history, customizing browsers, saving and printing web-pages and forms
4.	Searching and downloading information from web sites, Netscape communicator, Internet Explorer
5.	Introduction to Web-publishing Technologies, components of a web-site, applications of each components, features of a smart web-site
6.	Process for development of effective web-site, Domain name selection, selecting host and maintaining a web-site, web-publishing tools
7.	Internet: ISP, search engine, URL, DNS, security, e-mail, HTTP, HTML, Building a simple HTML document
8.	Cookies, Tables, Frames, Links, XML adding multimedia documents, Home page

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Science & Technology
HISAR-125001 (Haryana)

Table of Contents**Course: - Relational Data Base Management System****Course Code: ITM-303****MBA 3rd Sem.**

Lesson No.	Lesson
1.	RDBMS: Introduction, Three Layered Architecture, Advantages, Disadvantages and History of Database
2.	Data Modelling: Object oriented and Record based models, E-R model, diagram, Examples and Exercise
3.	Hierarchical Model, Network and Relational Model
4.	Normalization Techniques: First, Second and Third normal form, Examples, Exercise
5.	SQL: SQL Language-DML Commands
6.	SQL: SQL Language- Views DDL Commands, LAB: SQL and MS Access
7.	E.F.Codd's 12 rules for a relational database; Database concepts
8.	Data Dictionary-System Catalogue Distributed databases and distributed data Access, Introduction to Client-server and ODBC connectivity

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**Chandigarh University of
Technology**
133104-125001 (Har yana)

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Course: - E-Business Information System Management

Course Code: ITM-304

MBA 3rd Sem.

Lesson No.	Lesson
1.	System Development Environment: Types of Information System; System Development Life Cycle
2.	System Analyst-Role, Responsibility, Analytical Skills; Managing Information System Project
3.	Information System Planning: Identifying and Selecting System Development Projects
4.	Initiating and Planning System Development Projects
5.	Information System Analysis: Determining System Requirements; Structuring System Process Requirements
6.	Structuring System Logic Requirements; Structuring System Data Requirements
7.	Information System Implementation and Maintenance: System Implementation, Software Application Testing, Installation, Documenting the System
8.	Information System Implementation and Maintenance: Training and Supporting Users, Organizational Issues in System Implementation; Maintaining Information System

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Jyoti Jyoti Jyoti University of
Science & Technology
Jyoti Jyoti Jyoti Jyoti Jyoti

Table of Contents**Course: - Enterprise Resource Planning****Course Code: ITM-305****MBA 3rd Sem.**

Lesson No.	Lesson
1.	Introduction to ERP-An Overview
2.	ERP and Related Technologies
3.	Business Process Re-Engineering
4.	Manufacturing Perspective of ERP
5.	ERP Business Module-I
6.	ERP Business Module-II
7.	ERP Implementation
8.	ERP Market Place
9.	Future Directions In ERP



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Science & Technology**
HISAR-125001 (Haryana)

Table of Contents**Course: - Entrepreneurship Development****Course Code: MBA-401****MBA 4th Sem.**


Lesson No.	Lesson
1.	Entrepreneur and Entrepreneurship 3 Qualities and Functions
2.	Factors Affecting Entrepreneurship
3.	Growth: Economic, Social, Psychological and Political Factors
4.	Qualities and Functions of Entrepreneurs; Role of Entrepreneur in Economic Growth
5.	Entrepreneurship Development
6.	Rural Entrepreneurship in India
7.	Method and Procedures to Start and Expand One's Own Business
8.	Entrepreneurial Motivation
9.	Environmental Factors Affecting Success of a New Business; Reasons for the Failure and Visible Problems for Business
10.	Project Formulation
11.	Selection of Factory Location
12.	Government Support To Entrepreneurs: Policy Initiatives For Entrepreneurial Growth, Incentives And Subsidies
13.	Institutional Support To Entrepreneurs
14.	Entrepreneurship Development Programmes

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**Guru Jambheshwar University of
Science & Technology
HISAR-125001 (Haryana)**

Table of Contents**Course: - Business Legislation****Course Code: MBA-402****MBA 4th Sem.**

Lesson No.	Lesson
1.	The Indian contract Act, 1872
2.	Performance, Discharge and Breach of a contract; Contract of Indemnity and Guarantee and Agency
3.	The Sales of Goods Act, 1930
4.	Negotiable Instrument Act, 1881
5.	The Companies Act, 2013 and
6.	Landmark provisions of New Companies Act, 2013
7.	Classification and Formation of a Company; Membership in companies
8.	Meetings of a Companies
9.	Consumer Protection Act


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HISAR-125001 (Haryana)

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Course: - Human Resource Development

Course Code: HRM-402

MBA 4th Sem.

Lesson No.	Lesson
1.	Framework of human resource Development
2.	HRD Climate and Practices in India
3.	Staffing HR Function
4.	Developing HR Strategies
5.	Case studies of HRD in Indian organization
6.	HRD for workers
7.	Human Resource Development: Strategies And Systems
8.	Career Management and Competency Mapping
9.	HRD Applications: Coaching, Mentoring, Socialization, Orientation, Training And Development
10.	Contemporary issues In HRD
11.	Evaluating Effectiveness of HRD Programs
12.	HRD Audit (Human Resource Development Audit)
13.	Challenges In HRD


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Guru Jambheshwar University of
Science & Technology
HISAR-125001 (Haryana)

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Course: - Organizational Change and Intervention Strategies

Course Code: HRM-404

MBA 4th Sem.

Lesson No.	Lesson
1.	An overview of organisational change
2.	Effectiveness and skills of change agents
3.	Organisational development (OD)
4.	Organisational climate and culture
5.	The process of empowerment
6.	Organisational learning
7.	Creativity and innovation
8.	Conflict and negotiations
9.	Inter-group behaviour and collaboration
10.	Corporate governance and business ethics
11.	Management of gender issues
12.	Power and politics
13.	Cross-cultural dynamics

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Science & Technology
Hisar-125001 (Haryana)

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Course: - International Financial Management

Course Code: FM-404/IB-403

MBA 4th Sem.

Lesson No.	Lesson
1.	International Financial Management : An overview
2.	Evolution of International Monetary and Financial System
3.	Management of Short-Term Assets and Liabilities
4.	International Capital Budgeting Decision
5.	Foreign Investment Decision
6.	Political and Country Risk Management
7.	Cost of Capital of Multinational Firm
8.	Capital Structure of Multinational Firm
9.	Dividend Policy of a Multinational Firm
10.	Taxation of Multinational Firm
11.	Long-Term Sources of Funds for A Multinational Company
12.	Multinational Financial Management : An overview
13.	Evolution of International Monetary and Financial System

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Science & Technology
Hisar-125001 (Haryana)

Table of Contents**Course: - Financial and Commodity Derivatives****Course Code: FM-406****MBA 4th Sem.**

Lesson No.	Lesson
1.	Introduction to Derivative Securities
2.	Futures and Forwards : Trading Mechanism and Pricing
3.	Use of Futures for Hedging
4.	Interest Rate Futures
5.	SWAP Markets
6.	Option Markets
7.	Option Pricing
8.	Strategies Involving Options
9.	Derivative Markets in India : Evolution and Regulation
10.	Commodity Derivatives in India

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Science & Technology
BISAR-125001 (Haryana)**

Table of Contents**Course: - Global Marketing****Course Code: MM-401****MBA 4th Sem.**

Lesson No.	Lesson
1.	Introduction to Global Marketing: Definition, Scope, Importance etc.
2.	International Trade Institutions
3.	Business Environment for Global Companies
4.	Forms of International Business
5.	Foreign Trade in India and EXIM Policy
6.	Institutional Infrastructure for Export Promotion in India
7.	Export Procedure and Documentation
8.	Product Decisions for International Markets
9.	International Pricing
10.	International Promotion
11.	Distribution and Logistics for International Markets



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Science & Technology
HISAR-125001 (Haryana)

Table of Contents**Course: - Rural Marketing****Course Code: MM-403****MBA 4th Sem.**

Lesson No.	Lesson
1.	Rural marketing : An Introduction
2.	Rural Marketing Environment
3.	Organization and Functions of Agricultural Marketing
4.	Marketing of Consumer Durables and Non-Durables
5.	Attitudes and Beliefs of Rural Markets
6.	Marketing of Agricultural Inputs
7.	Agricultural Marketing, Classification of Products and Economic Development
8.	Role of Warehousing
9.	Processing of Selected Agricultural Products
10.	Role of Agricultural Price commission in India
11.	Role of Co-operative Marketing in India



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Jawahar Education Society's University of
Science & Technology
BILAK-125004 (Haryana)

Table of Contents

Course: - Global Strategic Management

Course Code: IB 404

MBA 4th Sem.

Lesson No.	Lesson
1.	Introduction, Definitions and phases of Global Strategy, Differences between Global strategy and International strategy
2.	Drivers of Global strategy and CSR strategy
3.	Global Strategic Analysis: PEST analysis, Diamond model, five force model and phases of international PLC
4.	Analysis of Internal Environment: Analysis, global value chains and comparative analysis
5.	Global Strategic Development: Managing the Internationalization process, International strategic alliances
6.	Strategy at subsidiary level and headquarter level strategy
7.	Global strategic implementation: Global structures and design, managing change in global context
8.	Global management of innovation and knowledge, Global R&D networks



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Science & Technology
(Hisar-125101 Haryana)

Table of Contents

Course: - Warehouse Management and Inventory Control

Course Code: POM-405

MBA 4th Sem.

Lesson No.	Lesson
1.	Warehouse Management, WMS Software, Material Requisition- Meaning, Problems and Procedure.
2.	Material Replenishment, Material Inspection, Storage, Stock Taking, Discrepancy Resolution, Control of Surplus And Scrap.
3.	Computerization of Warehouse Activities, Stores Activities, ISO Standards And Warehouse Activities
4	Warehouse location, Warehouse Layout and Facility Planning, Warehouse Security, Safety and Maintenance.
5.	Inventory management, Cost of managing Inventory, Types of inventory, Pressures for high and low inventory, Safety stocks
6.	Inventory control system, P and Q inventory control system, Economic Order Quantity, Re-order level and Safety stocks, Quantity discount, Service Level, Periodic Inventory System, Order Quantity with Variable Demand
7.	Just In Time Inventory, Comparison between JIT and other inventory management methods, Kanban as an inventory tool, Make or Buy decision.
8.	Materials function, FSN , HML, XYZ, Materials Management in JIT environment, Turnover ratios

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Science and Technology
Hisar-125004 (Haryana)

Table of Contents**Course: - Project Management****Course Code: POM-406****MBA 4th Sem.**

Lesson No.	Lesson
1.	Meaning, Nature and Importance of Project
2.	Expenditure Decision
3.	Market and Demand Analysis
4.	Technical and Financial Analysis
5.	Analysis of Project Risk, Market Risk and Firm Risk
6.	Social Cost-Benefit Analysis
7.	Multiple Projects and Constraints
8.	Network Techniques for Project Management
9.	Project Financing in India
10.	Management of Public Sector Enterprises
11.	Project Appraisal : Assessing the Tax Burden
12.	Environmental Appraisal of Projects
13.	Capital Budgeting and Strategic Issues

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Science & Technology
Hisar-125001 (Haryana)**


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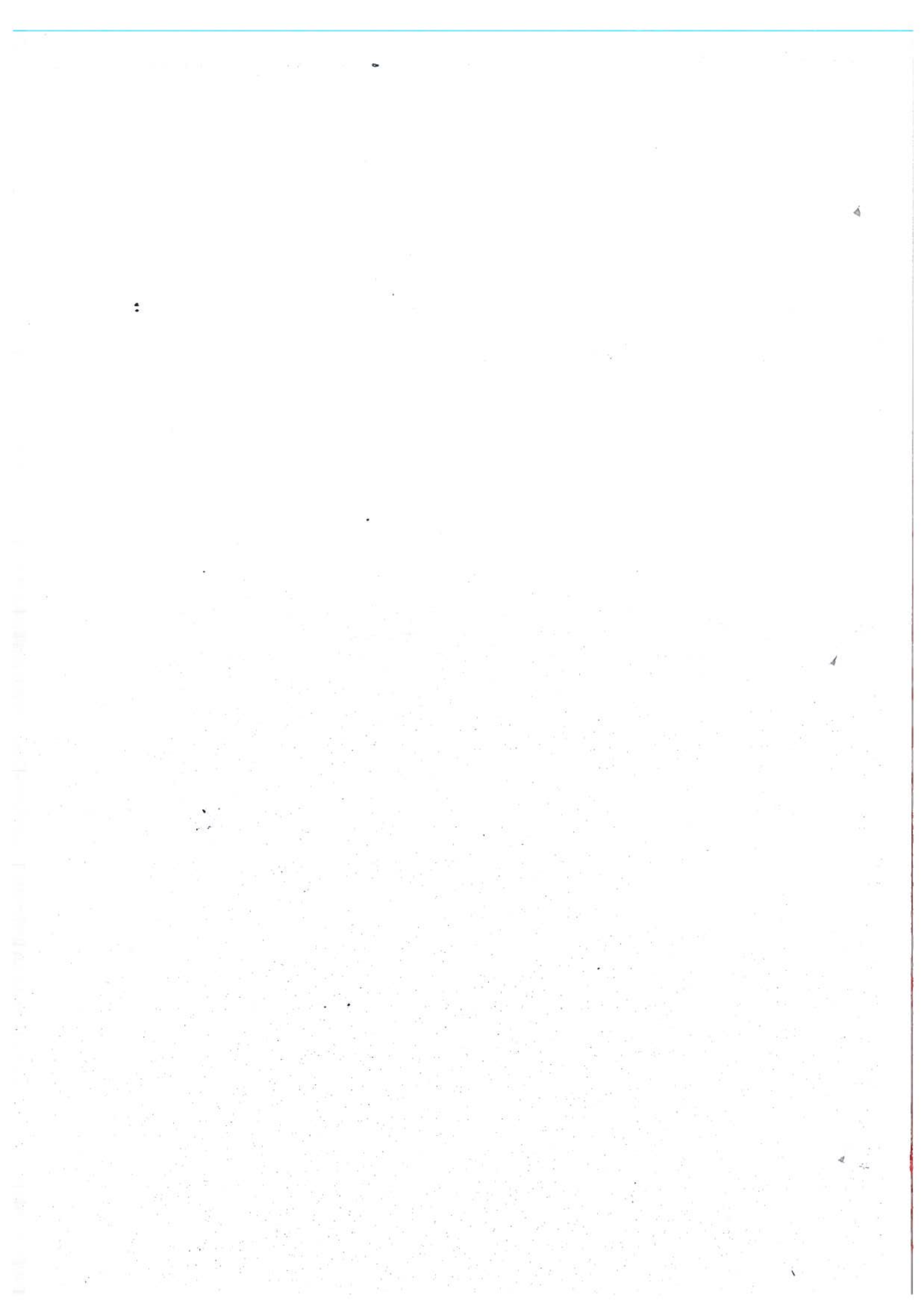
Course: - System Analysis and Design

Course Code: ITM-403

MBA 4th Sem.

Lesson No.	Lesson
1.	Concept of system; Overview of system development methodologies
2.	Feasibility study: economic, organizational and cultural, technological schedule and resource
3.	SDLC: An Overview; Major steps in preliminary investigation
4.	System analysis-DFD, documentations; Cost benefit analysis
5.	System design: User interface design; System Implementation
6.	Structured application development; Installation
7.	Designing distributed System
8.	Designing Internet System


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H.No. 145001 (Aerovans)



GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR**DIRECTORATE OF DISTANCE EDUCATION****MBA 1st Year**

Course Name: Management Process and Organisational Behaviour Semester: 1st

Course Code: MBA 101

References

- Kootnz & O'Donnell, Principles of Management.
- J.S. Chandan, Management Concepts and Strategies.
- Arun Kumar and R. Sharma, Principles of Business Management.
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**Guru Jambheshwar University of
Science & Technology
Hisar-125001 (Haryana)**

Course Name: Business Statistics

Semester: 1st

Course Code: MBA 102

References

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- Heinz, Kohler, Statistics for Business & Economics, Harper Collins, New York.
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Course Name: Managerial Economics

Semester: 1st

Course Code: MBA 103

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Course Name: Accounting For Managers

Semester: 1st

Course Code: MBA 104

References

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Course Name: Business Environment

Semester: 1st

Course Code: MBA 105

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Course Name: Business Communication

Semester: 1st

Course Code: MBA 106

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Course Name: Marketing Management

Semester: 2nd

Course Code: MBA201

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Course Name: Human Resource Management

Semester: 2nd

Course Code: MBA 202

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Course Name: Corporate Financial Management

Semester: 2nd

Course Code: MBA 203

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Course Name: Production and Operations Management

Semester: 2nd

Course Code: MBA 204

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Course Name: International Business


Semester: 2nd

Course Code: MBA 205

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Semester: 2nd

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Course Name: Business Research Methods

Semester: 2nd

Course Code: MBA 207

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Course: - Strategic Management

Course Code: MBA-301

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Course: - Management of Industrial Relations

Course Code: HRM-301

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Course: - Human Resource Planning

Course Code: HRM-302

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Course: - Leadership Dynamics

Course Code: HRM-306

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Course: - Training and Development

Course Code: HRM-308

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Course: - Security Analysis

Course Code: FM-302

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Course: - Project Management

Course Code: FM-303

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Course: - Management of Banks and Financial Institutions

Course Code: FM-304

MBA 3rd Sem.

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Course: - Public Finance

Course Code: FM-306

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Course: - Consumer Behavior

Course Code: MM-301

MBA 3rd Sem.

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Course: - Marketing Research

Course Code: MM-302

MBA 3rd Sem.

References:

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Course: - Sales and Distribution Management

Course Code: MM-304

MBA 3rd Sem.

References:

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Course: - Marketing of Services

Course Code: MM-306

MBA 3rd Sem.

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Course: - Product and Brand Management

Course Code: MM-307

MBA 3rd Sem.

References:

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Course: - Export-Import Procedures and Documentation

Course Code: IB-302

MBA 3rd Sem.

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Course: - India's Foreign Trade & Policy

Course Code: IB-303

MBA 3rd Sem.

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Course: - Global Marketing

Course Code: MM-401/IB-304

MBA 3rd Sem.

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JISAR-126001 (Haryana)

Course: - International Logistics

Course Code: IB-305

MBA 3rd Sem.

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Registrar
Guru Gobind Singh Indraprastha University of
Technology
HISAN-125001 (Haryana)

460 362


Course: - Risk Management in International Business

Course Code: IB-307

MBA 3rd Sem.

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Course: - Purchase and Materials Management

Course Code: POM-301

MBA 3rd Sem.

References:

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Course: - Total Quality Management

Course Code: POM-302

MBA 3rd Sem.

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Course: - Supply Chain Management

Course Code: POM-303

MBA 3rd Sem.

References:

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Course: - Service Operations Management

Course Code: POM-304

MBA 3rd Sem.

References:

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Course: - Technology Management

Course Code: POM-305

MBA 3rd Sem.

References:

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Gurgaon-125001 (Haryana)

12/100
Course: - E-Commerce Applications

Course Code: ITM-301

MBA 3rd Sem.

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Guru Jangamshwar University of
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HISAK-125003 (Harvana)

Course: - Internet and Web Designing

Course Code: ITM-302

MBA 3rd Sem.

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Guru Jyoti Prakashwar University
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HSAK-123001 (Haryana)

Course: - Relational Data Base Management System

Course Code: ITM-303

MBA 3rd Sem.

References:

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Course: - E-Business Information System Management

Course Code: ITM-304

MBA 3rd Sem.

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Hisar-125001 (Haryana)


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Course: - Enterprise Resource Planning

Course Code: ITM-305

MBA 3rd Sem.

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Course: - Entrepreneurship Development

Course Code: MBA-401

MBA 4th Sem.

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SCHOOL UNIVERSITY of
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BISHNUPUR (Bharyana)

Course: - Business Legislation

Course Code: MBA-402

MBA 4th Sem.

References:

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Course: - Human Resource Development

Course Code: HRM-402

MBA 4th Sem.

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Course: - Organizational Change and Intervention Strategies

Course Code: HRM-404

MBA 4th Sem.

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Guru Jambheshwar University of
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Hisar-125001 (Haryana)

Course: - International Financial Management

Course Code: FM-404/IB-403

MBA 4th Sem.

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Registered
New York University of
Business Administration
BBAK-125071 (Mergers)

Course: - Financial and Commodity Derivatives

Course Code: FM-406

MBA 4th Sem.

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**Guru Jambheshwar University of
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Bikaner-334001 (Rajasthan)**

Course: - Global Marketing

Course Code: MM-401

MBA 4th Sem.

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BISAK-125001 (Haryana)

Course: - Rural Marketing

Course Code: MM-403

MBA 4th Sem.

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HISAR-125001 (Haryana)

Course: - Global Strategic Management

Course Code: IB 404

MBA 4th Sem.

References:

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HISAR-125001 (Haryana)

Course: - Warehouse Management and Inventory Control

Course Code: POM-405

MBA 4th Sem.

References:

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Guru Jambheshwar University of
Science & Technology
Hisar (Haryana)

Course: - Project Management

Course Code: POM-406

MBA 4th Sem.

References:

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14-23
K. K. Kataria
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Science & Technology
GGSAR-125001 (Haryana)

Course: - System Analysis and Design

Course Code: ITM-403

MBA 4th Sem.

References:

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Registration
Guru Jambhadracharya University of
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HISAK-12500 (Maryana)

Name of Programme:- Master of Computer Application (MCA)

Sr. No.	Content	Page No.
1.	PPR	385-481
2.	Sample of SLM	482-500
3.	Table of Content	501-519
4.	References	520-540

PROGRAMME PROJECT REPORT (PPR)



MCA (2 YEAR)

Programme Project Report (PPR)

(2 Year MCA Programme)

13/3/2023
17/4/23
Registrar

15-3-23
Course Coordinator
MCA

Co-Ord
Programme Coordinator
MCA

Programme's Mission & Objectives:

Mission:

To achieve excellence through blended learning mode and promoting quality of life through striking linkage with IT industries and professional bodies such as IEEE, ACM, CSI.

Objectives:

- To impart knowledge and skills in different functional areas of IT
- To prepare graduates for acquiring competence in software development
- To train human resources for Computer education and research
- To develop specific, add on skills among working IT professionals
- To create and nurture entrepreneurial acumen among young graduates
- To promote innovative and analytical thinking

Relevance of the programme with Higher Educational Institution's (HEI's) Mission & Goals:

HEI'S Mission:

The University aspires to be a globally recognized Centre of excellence in the field of technical education and research. It strives to achieve this by introducing innovative job- oriented courses, employing competent and motivated faculty, developing state-of-the-art infrastructure, striking purposeful linkages with industry and professional bodies, and promoting quality of work life on campus. The University focuses on the student community to imbue them with passion for knowledge and creativity and to promote sustainable growth in academic resources, student placements, and holistic human development with a strong conviction for professional ethical, social and environmental issues.

HEI'S Goals:

The goals of the University as enshrined in the Act are to facilitate and promote studies and research in emerging areas of higher education with focus on new frontiers of and also to achieve excellence in these and connected fields.

Programmes Offered to Achieve HEI's Mission and goals:

The HEI's mission and goals are holistically inherited in the MCA programme (Master of Computer Application) of Directorate of Distance Education. Scheme and syllabus of this program is designed by Board of Studies and the same is approved by Academic Council. In 2020-21, same scheme and syllabus for distance programme in line with the Regular mode is adopted as per ODL guidelines of UGC. Latest and updated curriculum is used for this course. MCA is most sought programme after graduation for the students who are looking forward to a carrier in vast clientele base of science, engineering, computers, commerce, economics graduates and other allied jobs. This program delivers required theoretical and industry inputs to students that develops creative thinking to make them experts and professionals in the field. The cost of the programs and provision for scholarship have been designed with objective of spreading mass education to meet needs of all class of learners. Personal Contact Programme (PCP) is offered by competent faculty as students' support services which ensures timely response to student's queries and, enhances overall quality standards. In all, the programme

offered by Directorate of Distance Education, Guru Jambheshwar University of Science and Technology ensure continuous education and meeting the needs of all class of learners.

Nature of prospective target group of learners:

MCA programme (Master of Computer Application) is a postgraduate Master Degree which specializes in software engineering, algorithms, architecture, database, networks, artificial intelligence, data warehouse, This course is especially meant for college students who are presently at the entry level and want to expand their knowledge and career. Students who want to go for further studies or courses like in research or doctorate level can get a bonus with this course.

- Qualified graduates in any field desirous of adding their software development skills and knowledge
- Working Professionals for gaining add on courses
- Persons who cannot pursue higher education due to any reason
- Persons who are not able to pay higher fees in regular mode (Affordable Fee structure)
- Home makers who want to enhance their career in IT and related areas
- Young entrepreneurs who wish to acquire managerial skills through IT
- Post Matric Scholarship (PMS) for SC students of Haryana as per the Government Guidelines


Appropriateness of programme to be conducted in Open and Distance Learning mode of acquire specific skills and competence:

All the courses in the programme are theoretical and problem based. So, no laboratory or experiment is needed to impart the skills and competence required for the programme. The specific skill and competencies required for a MCA post graduate can be imparted to a great extent through SLMs prepared with the approach of self-explanatory self-contained, self-directed, self- motivating and self-evaluating. Distance Education Department is more costs effective and can take place while continuing full-time employment. Distance Education offers outcome-based education, having industry centric curriculum. This enables the students to satisfy their needs and aspirations as the system provides enhanced learning opportunities.

Learning outcomes:

In its effort towards contribution of knowledge generation and dissemination the program is expected to

- To enhance employability by upgrading their professional and managerial skills
- To nurture creativity and entrepreneurship by gaining business acumen through case studies
- To educate how to communicate and negotiate effectively to achieve organizational and individual goals.
- To instil sensitivity among the students to become thought provoking leaders to face the challenges of a dynamically unstable environment.
- To sensitize them to understand ethical issues and dilemmas that businesses often face.


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Specific skills acquired:

The students in the process of learning acquire the following skills:

- **Negotiation skills:** Negotiation skills are qualities that allow two or more parties to reach a compromise. These are often soft skills and include abilities such as communication, persuasion, planning, strategizing and cooperating. Understanding these skills is the first step to becoming a stronger negotiator.
- **Technical skills:** Technical skills are qualities acquired by using and gaining expertise in performing physical or digital tasks.
- **Entrepreneurial skills:** It refers to the set of cognitive, technical, and interpersonal skills required in the practice of entrepreneurship.
- **Communication skills:** Communication skills are abilities you use when giving and receiving different kinds of information. Communication skills involve listening, speaking, observing and empathizing.

Competencies acquired:

The various competencies acquired by students include:

- **Personal Competencies** - How to manage computers.
- **Interpersonal competencies** - How to work with people in teams and make coordination in their activities.
- **Informational competencies**- How to use and process information for the benefits of business or organization.
- **Action competencies**- How to perform in the challenging software environment in a systematic way

Instructional design:

Need based courses have been identified and the courses are developed. They have been fine-tuned taking into consideration industry/social requirements and also to educate rural people professionally. The course, curriculum and syllabi are designed and evaluated by a Departmental Committee. The curriculum and syllabi is then placed in the Board of Studies. The finalized curriculum and syllabi are then placed in the Academic Council for the final approval. The governing body of the distance education ensures that the distance education curriculum has equivalent syllabus as the regular programmes. In addition, electives have been introduced specifically for distance education programmes to suit the requirements of the dynamic changes taking place in the economy and Industry. However, electives can be introduced as and when the need arises after obtaining necessary approvals from the appropriate academic bodies of the University. Approval of Board of Studies and Academic Council are obtained whenever modifications/additions are made in the existing curriculum and syllabi.

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Curriculum Design:


Bridge Course(s) for MCA 2-Year Programme

(For students having non-IT background only)

Course No.	Course	C	L	T	P	Max. Marks	Exams (Internal)
MCA-BC-01	MCA Bridge Course – I	3	3	-	-	100	3 Hours
MCA-BC-02	MCA Bridge Course – II	3	3	-	-	100	3 Hours
	Total					200	

Note:

1. Both courses are qualifying in nature. However, no student will be awarded MCA degree without qualifying them.
2. Duration – Three/Four weeks
3. Both bridge courses shall be completed by the student(s) as prescribed by the Department/University. MCA degree shall not be awarded unless the students successfully complete the bridge course(s). Bridge course(s) examination will be conducted by the Department/University. The student has to secure 40% marks in examination in order to pass the bridge course(s). The respective University Teaching Department/Affiliated College(s) shall arrange for the contact sessions for completing the bridge course(s). The University/ Affiliated College(s) shall not charge any additional fee for the conduct of bridge course(s). However, the contact classes for bridge course(s) shall count towards teaching workload.


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MCA-BC-01
MCA Bridge Course I

L - T - P
3 - 0 - 0

Max. Marks- 100
Credits – 3
Exams(I): 3 Hours

Note: - Total 09 Questions are to be set by the examiner. First question will be compulsory consisting of 5 short (each 4 marks) questions covering entire syllabus uniformly. In addition, 8 more questions will be set unit wise comprising 2 questions from each unit of the given syllabus. A candidate is required to attempt five questions in all selecting one question from each Unit - Including the compulsory question.

Course Objectives: The main objective of the course is to bridge the gap between courses studied by the students having non-IT background. The students taking this bridge course shall be taught in foundational mathematics, fundamental concepts of computers and C programming language.

Learning Outcomes: After successful completion of this bridge course, the students will be able to:

- Understand basic programming skills in C language and develop computer programs in C.
- Working knowledge of computer system, its components and OS.
- Understand the knowledge of mathematical structures used in computer science and computer applications.

Unit-I

Elements of C language: C character set, identifiers & keywords, data types: declaration & definition. Operators: Arithmetic relational, logical, bitwise, unary, assignment and conditional operators & their hierarchy & associativity, Data input/output. Control statements: Sequencing, Selection: if and switch statement; iteration, repetition: for, while, and do-while loop; break, continue, goto statement.

Unit-II

Functions in C language: Definition, prototype, passing parameters, recursion, Data structure: arrays, structures, union, string, data files. Pointers: Declaration, operations on pointers, array of pointers, pointers to arrays. C preprocessors

Unit-III

Computer Software: introduction, relationship between hardware and software, types of software, planning the computer program: purpose of program planning, algorithm, flowcharts, decision tables, pseudo codes, application software packages. Operating System, types of Operating System; process, process states, major components of an OS - file system, scheduler, and device drivers. Basic tasks of an OS-file management, memory management, process management, handling input and output and controlling peripheral devices such as disk drives and printers. Data Communications and Computer Networks: Introduction, data transmission modes, data transmission speed, transmission media, digital and analog transmission, the internet, multimedia.

Unit-IV

Foundational Mathematics: Types of numbers and their properties, natural numbers, whole numbers, integers, real numbers, rational numbers, irrational numbers, complex numbers, imaginary numbers.

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Set theory: Basic concept, set types, Venn Diagrams, cardinality, and notation, Basic counting principles.

Group theory: Basic concept, Binary Operations, Properties of Binary Operations.

Graph theory: Introduction to graphs, types, Degree of vertex, degree sequence path, connectivity, adjacency matrix.

References:

1. C Programming, Yashwant Kanitkar, Let us C, BPB Publications.
2. Pradeep k. Sinha & Priti Sinha, Computer Fundamentals, BPB Publications
3. Behrouz, Frozen, Introduction to Data Communications and Networking- Tata MC-Graw Hill.
4. Rajaraman V, Fundamentals of Computers, PHI
5. Seymour Lipschutz, Marc Lars Lipson, Discrete mathematics, McGraw-Hill international editions, Schaum's series.


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MCA-BC-02
MCA Bridge Course II

L - T - P
3 - 0 - 0

Max. Marks- 100
Credits – 3
Exams(I): 3 Hours

Note: - Total 09 Questions are to be set by the examiner. First question will be compulsory consisting of 5 short (each 4 marks) questions covering entire syllabus uniformly. In addition, 8 more questions will be set unit wise comprising 2 questions from each unit of the given syllabus. A candidate is required to attempt five questions in all selecting one question from each Unit - Including the compulsory question.

Course Objectives: The main objective of the course is to bridge the gap between courses studied by the students having non-IT background. The students taking this bridge course shall be taught topics in C++ programming language, digital electronics and Computer organization.

Learning Outcomes: After successful completion of this bridge course, the students will be able to:

- Understand the concept of object orientation and programming skills in C++ language and develop simple computer programs in C++.
- Understand the concept of Boolean algebra and corresponding electronics
- Understand the working of computer system through its organisation in terms of components.

Unit-I

Object oriented concept: Data abstraction, encapsulation, classes and objects modularity, hierarchy, typing, concurrency, object-oriented methodology: advantages and disadvantages of OO methodologies. aggregation, generalization and inheritance, abstract class, meta data, object diagram.

Unit-II

C++ Programming: Data types, structures vs classes, static data and member function, constant parameters and destruction, dynamic objects, operator overloading, function overloading, abstract class, virtual class, inheritance, virtual functions, template functions & template classes, exception handling, I/O streams.

Unit-III

Digital Fundamentals: Information representation - number systems, codes, binary arithmetic operations; number systems - non-positional number system, positional number system, number system conversion, fractional number conversion; computer codes - BCD code, EBCDIC code, ASCII code, binary arithmetic - addition, subtraction, multiplication, division; binary logic - Boolean algebra, Boolean functions, truth table, simplification of Boolean functions, digital logic gates.

Unit-IV

Computer Organisation: Combinational logic - adders, subtractors, encoder, decoder, multiplexer, demultiplexer and comparators; processor organisation - machine instructions, instruction cycles, instruction formats and addressing modes, microprogramming concepts, microprocessor sequence; sequential logic - flip flops, shift registers and counters; I/O organisation - I/O interface, interrupt structure, transfer of information between CPU, memory and I/O devices.

References:

1. Stroustrup, B., The C++ programming language, Addison –Wesley 1993.
2. Balaguruswami, object-oriented programming in C++: Tata McGraw
3. Rumbaugh. J.et. al., Object oriented modeling and design, Prentice Hall of India 1998.
4. Pradeep K. Sinha & Priti Sinha, Computer Fundamentals, BPB Publications
5. Rajaraman V, Fundamentals of Computers, PHI
6. Mano. M. Morris Digital Logic & Computer systems Design, Prentice Hall of India Pvt. Ltd., 2000.

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**Scheme of Examination for
Master of Computer Applications (MCA)
Two-Year Programme under CBCS Scheme
w.e.f. Academic Session 2020-2021**

MCA SEMESTER-I

Course Code	Course Title	Credit	Int.	Ext.	Total
MCA-11	Database Management System	3	30	70	100
MCA-12	Web Designing	3	30	70	100
MCA-13	Java Programming	3	30	70	100
MCA-14	Software Engineering	3	30	70	100
MCA-15	Computer Networks and Internet Protocols	3	30	70	100
MCA-16	Database Management System Lab	2	30	70	100
MCA-17	Web Designing Lab	2	30	70	100
MCA-18	Java Programming Lab	2	30	70	100
Total		21	240	560	800

MCA SEMESTER -II

Course No.	Course Title	Credit	Int.	Ext.	Total
MCA-21	Data Structures and Algorithms	3	30	70	100
MCA-22	Python Programming	3	30	70	100
MCA-23	Artificial Intelligence	3	30	70	100
MCA-24	Computer System Architecture	3	30	70	100
MCA-25	Discrete Mathematics and Optimization	3	30	70	100
MCA-26	Data Structures and Algorithm Lab	2	30	70	100
MCA-27	Python Programming Lab	2	30	70	100
MCA-28	Artificial Intelligence Lab	2	30	70	100
Total		21	240	560	800
Four to six week Industrial training at the end of second semester.					

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MCA SEMESTER-III

Course No.	Course Title	Credit	Int.	Ext.	Total
MCA-31	Machine Learning	3	30	70	100
MCA-32	Advanced Operating Systems	3	30	70	100
MCA-33	Data Analytics	3	30	70	100
MCA-34	Cyber Security	3	30	70	100
MCA-35	Theory of Computations	3	30	70	100
MCA-36	Machine Learning Lab	2	30	70	100
MCA-37	Data Analytics Lab	2	30	70	100
MCA-38	Industrial Training	2	100	---	100
Total		21	310	490	800

MCA SEMESTER-IV

Course No.	Course Title	Credit	Int.	Ext.	Total
MCA-41	IoT and Cloud Computing	3	30	70	100
MCA-42	Mobile Application Development	3	30	70	100
MCA-43	Elective - I	3	30	70	100
MCA-44	Elective - II	3	30	70	100
MCA-45	IoT and Cloud Computing Lab	2	30	70	100
MCA-46	Android Programming Lab	2	30	70	100
MCA-47	Project Work	6	30	70	100
Total		22	210	490	700

MCA – 43 Elective – I List of Courses

MCA – 43(i) Big Data Analytics

MCA – 43(ii) Software Project Management

MCA – 43(iii) Digital Image Processing

MCA– 43(iv) High Speed Networks

MCA – 43(v) Any MOOC Course with the permission of chairperson from the list approved by department.

MCA – 44 Elective –II List of Courses

MCA – 44(i) Soft Computing

MCA – 44(ii) Compiler Design

MCA – 44(iii) Data Mining Techniques

MCA– 44(iv) Computer Graphics

MCA – 44(v) Any MOOC Course with the permission of chairperson from the list approved by department.

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Total Programme Credits
MCA 2-Year under CBCS
w.e.f. Academic Session 2020-2021

Semester	Max. Marks	Credits
I	800	21
II	800	21
III	800	21
IV	700	22
Programme Total	3100	85

Note: -

1. A Bridge course (qualifying in nature) of duration 3-4 weeks will be given to students of non-IT background before the commencement of first year/semester classes. No student will be awarded MCA degree without qualifying them.
2. MOOCS through SWAYAM/NPTEL courses are also allowed to be offered as at least one elective course to the students as per the university guidelines.
3. An industry-based project of full one semester duration in 4th semester may also be offered to the students who are either placed with confirmed letter or have confirmed industry-based project letter.

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MCA-11 Database Management System

General Course Information

Course Code: MCA-11 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite: Knowledge of UNIX, Windows, a programming language and data structures

About the Course:

This course includes a detailed coverage of principles of database design and models. Students learn querying a database using SQL, normalization techniques, transaction processing etc.

Course Outcomes: By the end of the course students will be able to:

- CO1. Describe fundamental elements of Database Management System.
- CO2. Discuss principles of relational Database modelling.
- CO3. Apply SQL for designing queries for Relational Databases.
- CO4. Contrast various concurrency control and recovery techniques with concurrent transactions in DBMS.
- CO5. Design models of databases using ER modelling and normalization for real life applications.

Course Content

Unit - I

Overview: Overview of File Systems and Database Systems, Characteristics of the Data Base Approach, Database users, Advantages and Disadvantages of a DBMS, Responsibility of Database Administrator.

Data Base Systems Concepts and Architecture: DBMS architecture and various views of Data, Data Independence, Database languages, Data Models: Relational Database Model, Hierarchical Data Model, Network Data Model, Schemas and Instances.

Unit - II

E-R Model: Entity Types, Attributes & Keys, Relationships, Roles and Structural Constraints, E-R Diagrams, Reduction of an E-R Diagram to Tables. **Relational Model and Query Language:** Overview of Relational Database, Key Integrity Constraints, Relational Algebra, Relational Calculus, SQL fundamentals, Basic Operators, Missing information and NULL values, Advanced SQL features

Unit - III

Relational Database Design: Overview of normalization, Database Anomalies, Candidate and Super Key, Functional Dependencies, Integrity Constraints, Decomposition, Normal forms: First, Second, Third Normal, Boyce Codd, Normal Form, Multi-valued Functional Dependencies and Fourth

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Normal Form, Join Dependencies and Fifth Normal Form, Denormalization.

Unit - IV

Concurrency Control Techniques: Overview of database Transactions, Transaction states, ACID properties of a Transaction, Transaction Recovery, Concurrency Control, Locking Techniques, Time-stamp ordering, Multi-version Techniques, Deadlock, Recovery Techniques in centralized DBMS. DDBMS Design: Replication and Fragmentation Techniques.

Text and Reference Books:

1. Elmasri, R., and Navathe, S. B., Fundamentals of Database Systems, 3rd Edition, Addison Wesley, 2002.
2. Silberschatz, A., Korth, H. F., and Sudarshan, S., Database System Concepts, McGraw Hill, 2011.
3. Pannerselvam R., Database Management Systems, 2nd Edition, PHI Learning, 2011.
4. Desai, B. C., An Introduction to Database System, Galgotia Publication, 2010.
5. Leon, A., and Leon, M., Database Management Systems, 1st Edition, Vikas Publishing, 2009.
6. Mata-Toledo, R., Cushman, P., Sahoo, D., Database Management Systems, Schaums' Outline series, TMH, 2007.


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MCA-12 Web Designing

General Course Information

Course Code: MCA-12 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite:

Basic knowledge of HTML, XML, ASP, JSP and Web Designing.

About the Course:

This course includes a detailed coverage of HTML. Students learn HTML, XML and design various web pages and ASP, JSP and its uses in web designing process with HTML. They study about Client Side Programming and Server Side Programming.

Course Outcomes: By the end of the course students will be able to:

- CO1. Describe Web Designing Complete Process
- CO2. Discuss Client Side and Server Side Programming.
- CO3. Apply Stylesheets with HTML& ASP and JSP with HTML in web design.
- CO4. Contrast All Markup Languages.
- CO5. Design Web Pages using HTML and XML.

Course Contents

Unit - I


Information Architecture The Role of Information Architect, Collaboration and Communication, Organizing information, Organizational challenges, Organizing Web Sites and Intranets, Creating Cohesive Organization Systems, Designing Navigation Systems, Types of navigation Systems, Integrated Navigation Elements, Remote Navigation Elements, Designing Elegant Navigation Systems, Designing the Search Interface, Indexing the Right Stuff, Grouping Content, Conceptual Design; High-Level Architecture Blueprints, Architectural Page Mockups, Design Sketches.

Unit - II

Dynamic HTML and Web Designing HTML Basic Concepts, Good Web Design, Process of Web Publishing, Phases of Web Site development, Structure of HTML documents, HTML Elements - Core attributes, absolute and relative links, ordered and unordered lists, Linking Basics, Linking in HTML, Images and Anchors, Anchor Attributes, Image Maps, Semantic Linking Meta Information, Image Preliminaries, , Images as Buttons, Introduction to Layout: Backgrounds, Colors and Text, Fonts, Layout with Tables, Advanced Layout : Frames and layers, HTML and other media types, FORMS, Forms Control, New and emerging Form Elements.

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Separating style from structure with style sheets: Internal style specifications within HTML, External linked style specification using CSS, page and site design considerations, Positioning with Style sheets.

Unit - III

Client side programming: Introduction to the JavaScript syntax, the JavaScript object model, Event handling, Output in JavaScript, Forms handling, miscellaneous topics such as cookies, hiddenfields, and images; Applications.

Server side programming: Introduction to Server Side Technologies CGI / ASP / JSP, Programming languages for server Side Scripting, Configuring the server to support CGI, applications; Input/ output operations on the WWW, Forms processing, (using PERL/VBSCRIPT/JavaScript)

Unit - IV

Java Server Pages and Active Server Pages: Basics, Integrating Script, JSP/ASP Objects and Components, configuring and troubleshooting; Request and response objects, Retrieving the contents of a an HTML form, Retrieving a Query String, Cookies, Creating and Reading Cookies. Using application Objects and Events.

Overview of advance features of XML, XML Relationship between HTML, SGML, and XML, The future of XML.

Text and Reference Books:

1. Thomas A Powell, HTML-The Complete Reference, Tata McGraw Hill.
2. Scott Guelich, Shishir Gundavaram, Gunther Birzniek; CGI Programming with Perl 2/e. O'Reilly.
3. Doug Tidwell, James Snell, Pavel Kulchenko; Programming Web Services with SOAP, O'Reilly.
4. Pardi, XML in Action, Web Technology, PHI.
5. Yong, XML Step by Step, PHI.
6. Aaron Weiss, Rebecca Taply, Kim Daniels, Stuvien Mulder, Jeff Kaneshki, Web Authoring Desk Reference, Techmedia Publications.
7. HTML The complete Reference, TMH

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MCA-13 Java Programming

General Course Information

Course Code: MCA-22 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: The course assumes knowledge of basic knowledge of Object Oriented Technology like C++.

About the Course:

Java is a general-purpose, concurrent, class-based, object-oriented computer programming language that is specifically designed to have as few implementation dependencies as possible. The aim of this course is to provide the students basic knowledge about object-oriented development and in-depth knowledge about syntax and programming techniques in Java. The course is very comprehensive and covers all the important Java concepts, e.g., Java basics, Object-Oriented Programming, Multithreading, File handling, Exception handling and more.

Course Outcomes: By the end of the course students will be able to:

- CO1. List object oriented characteristics peculiar to JAVA programming, objects, members of a class and the relationships among them which are needed for a specific problem.
- CO2. Describe the concept of OOPs as well as the purpose and usage principles of encapsulation and method overloading.
- CO3. Apply object-oriented principles for solving problems using JAVA.
- CO4. Identify various real life problems and solve these problems using Console as well as Graphical User Interface.
- CO5. Create various Java application programs and identifying and handling the various exceptions.

Course Contents

Unit –I

Overview, Control and Looping Structure: Objective Oriented Technology, Introduction to Java Programming, Difference between C++ and Java, Abstraction, Encapsulation, Polymorphism, Inheritance, Data Types and Operators, Java Run-Time Environment, Running Java Application, Java Programming Editors, Control Statements- if, if-else, if-else-if ladder, switch-case statement, Looping Statements – for, while, do while.

Unit - II

Inheritance, Polymorphism and Multithreading: Visibility controls, class and methods in Java, constructors, Final keyword, Array- Single and Multidimensional, String, Vector, Inheritance and its types, Abstract Class, Interfaces and their implementation, Interface Inheritance, Polymorphism

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– Overloading and Overriding, Multiple inheritance in Java, Packages, Creating user-defined packages, Multithreading concept in Java.

Unit –III

Exceptions and File Handling: Exceptions in Java, try, catch and finally block, Handling user-defined errors, Study of various Exception Classes, Input and Output Streams: Streams Concept, Byte Stream Classes – FileInputStream, FileOutputStream, Character Streams Classes – FileReader, FileWriter, String TokenizerClass, Handling Primitive Data Types.

Unit– IV

GUI Programming: AWT and SWING Components – Creating a Frame, using Labels, TextFiled, Buttons, ComboBox, CheckBox, Radio Button, JOptionPane, Events and Its Types in Java, Mouse Events, Key Events, Other Events with Frame and Controls, Listeners, Creating Menus and Submenus.

Text and Reference Books:

1. Programming with Java A Primer, E. Balagurusamy, 5th Edition, McGraw Hill Education Pvt. Limited.
2. The Complete Reference Java, Herbert Schildt, 7th Edition, Tata McGraw Hill Education India.
3. A Programmer's Guide to Java Certification, Mughal K. A., Rasmussen R. W., Addison – Wesley.
4. Java – How to Program, Paul Deitel and Harvey Deital, 11th Edition, Pearson Education.


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MCA-14 Software Engineering

General Course Information

Course Code: MCA-14 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite: Basic Programming Skills and Innovative assessment.

About the Course:

This course of Software Engineering and Testing will help the learners to understand the systematic approach of all software development phases i.e. from initial stage to final stage of software systems. Learners will gain knowledge about the various processes which are used in software industry for the development of software product and about the testing methods, tools for creating good test cases to improve the quality of software.

In this course, the learners will be able to develop expertise related to:

1. Knowledge about software development life cycle phases and paradigms used in software industry as per the requirements.
2. Acquaintance about software requirements for manual and automated real world systems and to provide an idea about the problem analysis, modelling and design methodologies as per requirements.
3. Knowledge about testing process and computer aided software engineering tools.
4. Knowledge about the testing techniques and quality assurance models.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Define** the concepts related to software engineering and to comprehend about the stages of Software Development Life Cycle.
- CO2. **Demonstrate** the selection of Software Process Models as per the requirements and to assess the various processes of requirement analysis for software engineering problems.
- CO3. **Apply** the software requirement analysis and design process to model the system as per the requirements and to comprehend the principles, processes of Software Project Management including the Software Configuration Management and Risk Management.
- CO4. **Plan** the test cases and **apply** the testing techniques for software engineering problems.
- CO5. **Predict** software quality based on quality parameters and quality models.

Course Contents

Unit – I

Introduction to Software Engineering: Evolution of Software Engineering, Software Crisis, Types of Software Products, Software Development Life Cycle Phases. Validation and Verification, Software Characteristics, Software Engineering Paradigms: Classical Waterfall Model, Iterative Waterfall Model, Prototyping Model, Evolutionary Model, Spiral Model, Selection of Life Cycle Model.

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Software Project Management: Software Project Management Plan (SPMP), Metrics for Project Size estimation- Lines of Code, Function Point Metric, Software Cost estimation - COCOMO, Project Scheduling, Personnel Planning , Organization and Team Structures, Software Configuration Management (SCM), Software Risks, Software Risk Management.

Unit – II

Software Requirements: Functional and non-functional Requirements, User and interface requirements, Software Requirement Specification (SRS), Requirement Engineering Process.

Problem Analysis: Structured Analysis, Data Flow Diagrams (DFD), Decision Tables, Decision Trees, Data Dictionary, Structured Charts, Object Oriented Analysis, System Models: Context Models, Data Modelling, Behavioural Modelling, Object Models, Structured Models.

Software Design: Software Design Fundamentals, Design Principles, Function-Oriented Software Design, Object Oriented Design.

Characteristics of good user interface, Coding Standards and guidelines, Code Review.

Unit –III

Software Testing: Software Testing Basics, Necessity and Objectives of Testing, Difference between Inspection and Testing, Testing vs. Debugging, Testing Life Cycle, Test Artifacts, Test Plan, Test Case Design, Software Testing Strategies, The V-Model of Software Testing, Levels of Software Testing- Unit Testing, Integration Testing-Top down Integration Testing and Bottom-up Integration Testing, Regression Testing, Smoke Testing, System Testing- Recovery Testing, Security Testing, Stress Testing, Performance Testing, Acceptance Testing- Alpha Testing, Beta Testing, Gamma Testing, Software Test Report (STR), Software Testing Tools, Static and Dynamic Testing tools.

Computer Aided Software Engineering (CASE): CASE Environment, advantages of CASE, CASE support in Software Life Cycle, Characteristics of CASE tools.

Unit- IV

Software Testing Methods: Black Box Testing Methods: Equivalence class partitioning, Boundary-value analysis, Error guessing, graph- based testing methods, White Box Testing Methods: Statement coverage, Condition coverage, Path testing, Data flow testing. Object Oriented Testing, Web Testing, GUI testing.

Software Quality: Software Quality Concepts, ISO 9126 Quality Factors, McCall's Quality Factors, Software Quality Assurance (SQA) Activities, Software Reviews-Walkthroughs, Formal Technical Review (FTR), Defect Amplification Model, ISO 9000 series Quality Standards, Capability Maturity Model (CMM), Software Reliability.

Text and Reference Books:

1. Rajib Mall, Fundamentals of Software Engineering, PHI Learning Pvt. Ltd., Third Edition, 2009
2. K. K. Aggarwal & Yogesh Singh, Software Engineering Programs Documentation Operating Procedures, A New Age International Publishers.
3. Pankaj Jalote, An Integrated Approach to Software Engineering, Narosa Publications, Third Edition, 2007.
4. Roger S. Pressman, Software Engineering A Practitioner's Approach, McGraw Hill International Edition
5. M. G. Limaye, Software Testing: Principles, Techniques and Tools, TMH, 2009.
6. Renu Rajani & Pradeep Oak, Software Testing Effective Methods Tools and Techniques, McGraw Hill Education Pvt. Limited, Second Edition, 2018.
7. Nina S. Godbole, Software Quality Assurance Principles and Practice, Narosa Publications, 2011.
8. Yogesh Singh, Software Testing, Cambridge University Press, 2016.

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MCA-15 Computer Networks and Internet Protocols

General Course Information

Course Code: MCA-15 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite: Basic knowledge of Digital and Analog Communication.

About the Course:

This course has been designed with an aim to provide students with an overview of the concepts and fundamentals of data communication and computer networks. The learner is given an opportunity to grasp various algorithms for routing of data, forwarding data and switching the data from hop to hop. Layered Architecture adds value to the subject contents.

Course Outcomes: By the end of the course students will be able to:

- CO1. Recall various models, topologies and devices of Computer Networks.
- CO2. Explain the functions of various layers in Network Reference Model.
- CO3. Apply different network concepts in various network communication protocols.
- CO4. Analyse performance of various protocols in different scenarios.
- CO5. Design network for an organisation.

Course Content

Unit - I

Data communication: Components. Network: Uses, Topologies, Network Services, OSI and TCP/IP Reference Models; Network categories: LAN, MAN, WAN; Guided Transmission Media, Wireless Transmission Media, Switching Techniques: Circuit Switching, Packet Switching, Message Switching, Networking Devices: Hubs, Repeaters, Bridges, Modems, Switches, Routers, and Gateways.

Unit - II

Data Link Layer-design issues, Framing & Error Handling: Framing Protocols, Error detection and correction mechanisms; Flow Control Protocols: Stop-and-wait, Sliding Window protocols: Go-back-N and Selective Repeat.
Medium Access sub layer: Channel allocation methods, Multiple Access Communication: Random Access-ALOHA, Slotted-ALOHA, CSMA, CSMA-CD, LAN Standards: Ethernet, Fast Ethernet & Gigabit Ethernet.

Unit - III

Network Layer-Design issues, store and forward packet switching connection less and connection oriented networks, Routing algorithms: optimality principle, shortest path, flooding, Distance

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Vector Routing, Count to Infinity Problem, Link State Routing, Hierarchical Routing, Congestion control algorithms, admission control. Internetworking: IPV4 and IPV6, IP Addressing (Classful Addressing, Private IP Addresses, Classless Addressing, Sub-netting).

Unit - IV

Transport Layer: Transport layer Services: Addressing, Multiplexing, Flow control, Buffering.
Internet Transport Protocols: UDP& TCP. TCP Segmentation & TCP Connection management.
Application Layer: Introduction to DNS, HTTP, SMTP, Electronic Mail, WWW

Text and Reference Books:

1. Andrew S Tanenbaum, Computer Networks, 5th Edition, Pearson publications, 2010.
2. Forouzan, Data Communication and networking ,5th Edition, Tata McGrawHill, 2012.
3. William Stalling, Data & Computer Communication 6th edition, LPE Pearson Education, 2013.
4. Todd Lammle, CCNA Study Guide, 6th Edition, 2013.
5. RFCs and Internet Drafts available from Internet Engineering Task Force.


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MCA-16 Database Management System Lab.

General Course Information

<p>Course Code: MCA-16 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments</p>	<p>Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.</p>
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Pre-requisites: Exposure to a programming language, MS Access.

About the Course:

This lab. course on DBMS involves a rigorous training on Oracle programming. It provides a strong formal foundation in database concepts, technology and practice to the students to groom them into well-informed database application developers. The objective of the lab course is to develop proficiency in the execution of commands of the database design and query using Oracle.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Implement** database problems using DML/DDL commands.
- CO2. **Enforce** integrity constraints on a database using a state-of-the-art RDBMS.
- CO3. **Analyse** the design of a relational database.
- CO4. **Design** a relational database for a given schema.
- CO5. **Create** lab assignment record that includes problem definitions, solutions, results and conclusions.
- CO6. **Demonstrate** ethical practices, self-learning and team spirit.

List of experiments/assignments:

1. Use oracle software and login with valid userid and password. Explore its GUI and practice some basic commands of it.
2. Three assignments related to creation of database with tables having different fields and data types.
3. Two assignments on the creation of table with different types of constraints.
4. Two assignments on insert, delete and modify records from the tables.
5. Two assignments on modifying the table using the alter command.
6. Two assignments on exploring select statement using various clauses like where, order by, group by, having and aggregate functions.
7. Two assignments on the use of set operations to query the tables.
8. Two assignments on creating joins and views on the tables.
9. One assignment on generating sub-queries.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

MCA-17 Web Designing Lab.

General Course Information

Course Code: MCA-17 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Basic programming skills and knowledge of surfing internet.

About the Course:

This lab. course on web development involves learning web-based programming languages. It incorporates the development of web pages by structuring information provided for the website design. The objective of the lab course is to equip the students to design web pages using modern web development tools.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Implement** object models for website design using modern tools like HTML, XML and JAVA scripting etc.
- CO2. **Analyse** the design of websites.
- CO3. **Test** the design of websites.
- CO4. **Design** websites that consider socio-cultural values.
- CO5. **Create** a written report for website designed.
- CO6. **Use** ethical practices and socio-cultural values while designing websites.

List of experiments/assignments

1. Create a simple webpage using HTML.
2. Designing of registration form with table and use of hyperlink.
3. Design a page with frames to include Images and Videos.
4. Add a cascading style sheet for designing the web page.
5. Use user defined function to get array of values and sort them in ascending order on webpage
6. Design a dynamic web page with validation of form field using Java Script.
7. Design a catalogue in ASP.
8. Event Handling Validation of registration form.
9. Open a Window from the current window on Mouse Over event.
10. Create a simple application to demonstrate Servlets Request and Response object.
11. Demonstrate Array Objects and Date Object's predefined methods
12. Display calendar for the month and year selected from combo box
13. Create a welcome Cookie (Hit for a page) and display different image and text content each time when the user hit the page.
14. Demonstrate Request and Response object using HTML Form.

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15. Database Connection to display all the values in the table.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

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MCA-18 Java Programming Lab

General Course Information

Course Code: MCA-27 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. File and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: The course assumes knowledge of Object-Oriented Concepts and programming.

About the Course:

This Java course will provide a strong understanding of basic Java programming elements and data abstraction using problem representation and the object-oriented framework. The objective of the lab course is to inculcate proficiency in students to design and develop market-based software applications.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Implement** Java programs using object oriented concepts for problem solving.
- CO2. **Detect** syntax and logical errors in java programs.
- CO3. **Apply** exception handling for making robust JAVA code.
- CO4. **Design** java applications using File I/O and GUI.
- CO5. **Create** lab record of the solutions of assignments that includes problem definitions, solutions and conclusions.
- CO6. **Demonstrate** ethical practices, self-learning and team spirit.

List of experiments/assignments:


1. Use eclipse or NetBeans platform and acquaint with the various menus, create a test project, add a test class and run it to see how you can use auto suggestions and auto fill functionalities. Try code formatter and code refactoring like renaming variables, methods and classes. Try debug step by step with a small program of about 10 to 15 lines which contains at least one if else condition and a for loop.
2. Two assignments illustrating class, objects, methods, arrays and various data types in java.
3. Two assignments on the use of control, looping statements and user defined functions.
4. One assignment illustrating the implementation of various forms of inheritance.
5. One assignment on method overloading.
6. One assignment on polymorphism and method overriding.
7. One assignment on implementing exception handling.
8. One assignment to illustrate interfaces in java.
9. One assignment to create package in java.
10. One assignment to design of multithreaded programs in java.

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11. One new assignment on event handling.
12. Two assignments related to java applets.
13. One assignment to design a GUI application.
14. One assignment to access and update data from a database using JDBC.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.


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MCA-21 Data Structures and Algorithms

General Course Information:

Course Code: MCA-21 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite: Elementary Programming skills in C, C++ etc.

About the Course

Data Structure and Algorithms is a core and an essential course for every graduate in Computer Science and Engineering. This course introduces data structures like arrays, linked lists, trees and graphs etc. and various operations to be implemented on these data structures for solving real world problems. It includes various sorting and searching algorithms as well. Further, it incorporates complexity analysis of algorithms implemented on various data structures.

Course Outcomes: By the end of the course students will be able to:

- CO1. List or describe types of data structures and operations that can be implemented on these data structures.
- CO2. Select appropriate data structures as applied to specified problem definition.
- CO3. Apply appropriate data structures with respect to effective storage of data and efficiency of the required operations on data for solving real-world problems.
- CO4. Implement operations like searching, insertion, and deletion, traversing mechanism etc. on various data structures.
- CO5. Apply appropriate sorting/searching technique for given problem and analyse the time complexity of algorithms.
- CO6. Compare and contrast algorithms based on worst, average and worst case complexities.

Course Contents

Unit - I

Data Structures Basics: Structure and Problem Solving, Data Structures and Their Types, Data structure operations, Abstract Data Types.

Linear lists: Arrays and linked lists: memory representations, implementing operations like traversing, searching, inserting and deleting etc., types of arrays and linked lists, Applications of arrays and linked lists.

Unit - II

Stack and Queue: Introduction, sequential and linked implementations, Operations and representative applications, Circular queues, De-queue, Priority Queues, Applications of Queues.

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Application of stacks: Infix to postfix Transformation, Evaluating Arithmetic Expressions.
Trees: Binary Trees, terminology, representation and traversals- pre, post & in-order traversals.
Binary Search Trees implementation and operations.

Unit - III

Heapsort - Heaps, Maintaining the heap property, Building a heap, heapsort algorithm
Advanced tree data structures such as Height Balanced or AVL trees, Multiway Trees or B Trees, red and black trees, splay trees.
Graphs: Graph definitions and related terminology, memory representations for graphs and associated algorithms for searching, inserting and deleting nodes and related algorithms, Graph traversals and applications (DFS, BFS). Shortest path algorithms: Dijkstra's and Warshall's algorithms.

Unit - IV

Sequential and Binary search, Sorting algorithms: Bubble sort, Selection sort, Insertion sort, Quick sort, Merge sort, Internal and external sorting and stable sorting techniques.
Hash Tables - Direct-address tables, Hash tables, Hash functions, Open addressing, Perfect hashing.
Algorithm: Role of Algorithms in Computing, Analyzing and Designing Algorithms, Time- space tradeoffs, asymptotic notations, Standard notations.
Comparison of searching and sorting techniques based on their complexity analysis,

Text and Reference Books:

1. Aho, A. V., Ullman, J. D., and Hopcroft, J. E., Data Structures and Algorithms, Addison-Wesley, 1983.
2. LangsamYedidiah, Augenstein J Moshe, Tenenbaum M Aaron, Data Structures using C and C++, 3rd edition, PHI, 2009.
3. Cormen, T. H., Leiserson, C. E., Rivest, R. L. and Stein, C., Introduction to Algorithms, MIT Press, 2009.
4. Weiss, M. A., Data Structures and Algorithm Analysis in C++, Addison-Wesley, 2007.
5. Sahni, S., "Data Structures, Algorithms, and Applications in C++", WCB/McGraw-Hill, 2001.

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MCA-22 Python Programming

General Course Information

Course Code: MCA-13 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisite: Exposure to programming languages

About the Course:

Python is a popular open source programming language used for both standalone programs and scripting applications in a wide variety of domains. It is free, portable, and powerful and is both relatively easy and remarkably fun to use. In today's era Python has found great applicability in machine learning, data analytics and many other data science application. This is introductory course and covers most of the basic concepts required for basic python programming. Some of the contents are advanced may be useful for data analytics purpose.

Course Outcomes: By the end of the course students will be able to:

- CO1. Outline various basic programming constructs including operators, character sets, basic data types and control statements.
- CO2. Explain Python packages and their functionalities for data analysis.
- CO3. Solve problems using python programming.
- CO4. Analyse the results of data analysis or machine learning programs
- CO5. Evaluate solutions according to the problem definition.
- CO6. Develop database applications in Python.

Course Content

Unit - I

Introduction to Python, History of Python, Features of Python, Python Identifiers, Python Character Set, Keywords and Indentation, Comments, Command Line Arguments, Assignment Operator, Operators and Expressions, print() Function, input() Function, eval() Function, Python Data Types: int, float, complex, Variables, Mutable vs Immutable variables, Namespaces, Decision Statements: Boolean Type, Boolean Operators, if statement, else statement, Nested Conditionals Statements, Multi-way Decision Statements (elseifstatement).

Unit - II

Loop Control Statements: While loop, range() Function, For Loop, Nested Loops, Infinite Loop,

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Break Statement, Continue Statement, Pass Statement, Introduction to Strings, String Operations: Indexing and Slicing, Lists: Operations on List: Slicing, In-built Functions for Lists, List Processing: Searching and Sorting, Dictionaries: Need of Dictionary, Operations on Directories: Creation, Addition, Retrieving Values, Deletion; Tuples, operations on Tuples, Inbuilt Functions for Tuples, Introduction to Sets, operations on sets.

Python Functions, Inbuilt functions, Main function, User Defined functions, Defining and Calling Function, Parameter Passing, Actual and Formal Parameters, Default Parameters, Global and Local Variables, Recursion, Passing Functions as Data, Lambda Function, Modules, Importing Own Module, Packages.

Unit - III

Operations on File: Reading text files, read functions, read(), readline() and readlines(), writing Text Files, write functions, write() and writelines(), Manipulating file pointer using seek, Appending to Files.

Python Object Oriented: Overview of OOP, Classes and objects, Accessing attributes, Built-in Class Attributes, Methods, Class and Instance Variables, Destroying Objects, Polymorphism, Overlapping and Overloading of Operators, Class Inheritance: super(), Method Overriding, Exception Handling, Try-except-else clause, Python Standard Exceptions, User-Defined Exceptions

Unit - IV

Databases in Python: Create Database Connection, create, insert, read, update and delete Operation, DML and DDL Operation with Databases.

Python for Data Analysis: numpy: Creating arrays, using arrays and Scalars, Indexing Arrays, Array Transposition, Universal Array Function, Array Processing, Array Input and Output

Pandas: Series, Data Frame, Panel, Index objects, Re-indexing, Iteration, Sorting, Matplotlib: Python for Data Visualization, Visualization Section, Sklearn: loading of dataset, learning and predicting, Model Persistence.

Text and Reference Books:

1. Ashok Namdev Kamthane, Programming and Problem Solving with Python, McGraw Hill Education Publication, 2018.
2. John Guttag, Introduction to Computation and Programming using Python, Springer, Revised and Expanded version (Referred by MIT), 2013.
3. Lutz, M., Learning Python: Powerful Object-Oriented Programming. O'Reilly Media, Inc., 2013.
4. Michael T Goodrich and Robertto. Thamassia, Micheal S Goldwasser, Data Structures and Algorithms in Python, Wiley, 2016.
5. Y. Daniel Liang, Introduction to Programming Using Python, Pearson, 2013.
6. Reema Thareja, Python Programming Using Problem Solving Approach, Oxford Publications, 2017.
7. Dr. R. Nageswara Rao, Allen B. Downey, Core Python Programming, Think Python, O'Reilly Media, 2012.
8. Kenneth A. Lambert, The Fundamentals of Python: First Programs, Cengage Learning, 2011.

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MCA-23: Artificial Intelligence

General Course Information:

Course Code: MCA-23 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite

Basic knowledge of HTML, XML, ASP, JSP and Web Designing.

About the Course

In this course, the learners will be able to develop expertise related to general purpose problem solving, Representation of knowledge, Reasoning under uncertainty, Planning and Natural Language processing

Course Outcomes: By the end of the course students will be able to:

- CO1. Outline various Artificial Intelligence techniques.
- CO2. Illustrate reasoning under uncertainty.
- CO3. Apply search and knowledge representation techniques to solve AI problems.
- CO4. Compare strengths and weaknesses of AI algorithms
- CO5. Combine various AI techniques to solve intelligent systems' problems.

Course Contents

Unit – I

Introduction to AI: Introduction, AI problems, AI Techniques, State Space Search, production systems

Problem Solving Using Search: Blind search techniques - Breadth first search, Depth first search. Heuristic search techniques - Generate and test, Hill Climbing, Best first search, A* Algorithm, AO* Algorithm, Constraint Satisfaction, The Minimax Search Procedure, Adding Alpha-Beta Pruning.

Unit – II

Knowledge Representation: Introduction, Knowledge Representation- Representation and Mappings, Symbolic Logic - Propositional logic, Predicate logic- Representing simple facts in logic, Representing Instances and ISA Relationship, Computable functions and Predicates, Unification, Resolution.

Representing Knowledge Using Rules: Procedural versus Declarative Knowledge, Logic Programming, Forward versus Backward Reasoning, Matching, Control Knowledge.

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Unit –III

Reasoning Under Uncertainty: Introduction to Nonmonotonic Reasoning, Probability and Baye's Theorem, Certainty Factors and Rule-based Systems, Bayesian Networks.

Fuzzy logic systems: Introduction, Crisp Set, Fuzzy Sets, Fuzzy Logic Control.


Unit– IV

Planning: Introduction, Components of Planning System, Goal Stack Planning, Nonlinear Planning using Constraint Posting, Hierarchical Planning.

Natural Language Processing: Introduction, Syntactic Processing, Semantic Analysis, Discourse and Pragmatic Processing

Text and Reference Books:

1. Elaine Rich, Kevin Knight and Shivashankar B Nair, Artificial intelligence, McGraw Hill Education. 3rd edition, 2009.
2. Stuart Russel and Peter Norvig, Artificial intelligence: A modern Approach, Pearson Education, 3rd edition, 2015.
3. Dan W. Patterson, Introduction to Artificial Intelligence and Expert System, Pearson Education. 1st edition, 2007.
4. Deepak Khemani, A first course in Artificial Intelligence, McGraw Hill Education. 3rd edition, 1st edition, 2013.
5. George F. Luger, Artificial Intelligence: Structures and Strategies for Complex Problem Solving, Pearson Education, 5th edition, 2009.


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MCA-24 Computer System Architecture

General Course Information

Course Code: MCA-24 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: Basic Computer System and Digital Electronics

About the Course:

Computer Architecture and organization describes the role of instruction set architecture in digital computer, main memory, and input/output devices. It illustrates the simple data path and control design for processors. It helps to understand the different operations and concept of instructions. It would enable the students to learn the basic function and architecture of modern computer systems.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Outline** the basic hardware and software issues of computer organization and the representation of data at machine.
- CO2. **Discuss** the basic components and their interfacing.
- CO3. **Apply** instructions for performing different operations.
- CO4. **Analyse** the effect of addressing modes on the execution time of a program.
- CO5. **Contrast** different types of memory, their architecture and access methods.
- CO6. **Design** of simple computer with different instruction sets.

Course Content

Unit - I

Basic Principles: Boolean algebra and Logic gates, Combinational logic blocks (Adders, Subtractors, Multiplexers, Encoders, decoders, de-multiplexers, K-Maps), Sequential logic blocks (Flip-Flops, Registers, Counters); Flynn's classification of computers (SISD, MISD, MIMD); Performance metrics: MIPS, MFLOPS; CPU Architecture types: computer register, (accumulator, register, stack, memory/ register) detailed data path of a typical register based CPU.

Unit - II

Computer Organization: Store program control concept, Instruction codes, timing and control, instruction cycle; type of instructions: memory reference, register reference, I/O reference; Basics of Logic Design, accumulator logic, Control memory; Micro Programmed Control: address sequencing, micro-instruction formats, micro-program sequencer, Implementation of control unit.

Unit - III

Instruction Set Architecture & Parallelism: Instruction set based classification of processors (RISC,


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CISC, and their comparison); Stack Organization, Instruction Formats; addressing modes: register, immediate, direct, indirect, indexed; Operations in the instruction set: Arithmetic and Logical, Data Transfer, Control Flow; Types of interrupts; Introduction to Parallelism: Goals of parallelism (Exploitation of concurrency, throughput enhancement); Amdahl's law; Instruction level parallelism (pipelining, super scaling –basic features); Processor level parallelism (Multiprocessor systems overview).

Unit - IV

Memory Hierarchy & I/O Techniques: The need for a memory hierarchy (Locality of reference principle, Memory hierarchy in practice: Cache, main memory and secondary memory, Memory parameters: access/cycle time, cost per bit); Main memory (Semiconductor RAM & ROM organization, memory expansion, Static & dynamic memory types); Cache memory (Associative & direct mapped cache organizations; input-output interface, mode of transfer, DMA (Direct memory transfer)).

Text and Reference Books:

1. Mano, M. Morris, Digital Logic and Computer Design, Prentice Hall of India Pvt. Ltd., 1981.
2. M. Morris Mano, Computer System Architecture, Prentice Hall of India Pvt. Ltd., 1993.
3. Milles J. Murdocca, Vincent P. Heuring, Computer Architecture and Organization, An Integrated Approach, John Wiley & Sons Inc., 2007.
4. William Stallings, 10th edition, Computer Organization and Architecture, Prentice Hall, 2016.
5. Heuring, V. P., Jordan, H.F., Computer Systems Design and Architecture, Addison Wesley, 1997.
6. R.P Jain, Modern Digital Electronics, 3rd Edition, Tata McGraw Hill, 2003.


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MCA-25 Discrete Mathematics and Optimization

General Course Information:

Course Code: MCA-25 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite

Basic knowledge of Pre-calculus, Algebra and Trigonometry.

About the Course

The purpose of this course is to understand and use discrete structures that are backbones of computer science. Introduction to Discrete Mathematics is a course designed for students interested in information technology and programming that includes topics in set theory, algebraic structures, and graph theory. On the completion of this course, the students will be able to explain and apply the basic methods of discrete mathematics in Computer Science.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Outline** various discrete structures and the related operations.
- CO2. **Illustrate** different discrete structures with the help of examples.
- CO3. **Apply** appropriate techniques to solve problems related to discrete structures.
- CO4. **Develop** proficiency in business study and decide the feasibility of system.
- CO5. **Justify** the solutions with the help of proofs.
- CO6. **Combine** techniques related to discrete structures and optimization for solving real world problems and profitable solution for industries.

Course Contents

Unit - 1

Set Theory: Introduction to Set Theory, Venn Diagrams, Set Operations, Algebra of Sets, Duality, Finite, Infinite Sets and Counting Principle, Classes of Sets, Power Sets, Partitions, Multi Sets, Relations: Cartesian Product, Representation of Relations, Types of Relation, Equivalence Relations, Functions: Definition, Types of Functions, Composition of Functions, Inverse Function, Posets.

Unit - II

Logic and Propositional Calculus: Introduction, Propositions and Compound Propositions, Basic Logical Operations, Propositions and Truth Tables, Tautologies and Contradictions, Logical Equivalence, Algebra of Propositions, Conditional and Bi-conditional Statements, Algebraic Structures: Group Axioms, Monoid, Semi-Groups, Subgroups, Abelian Group, Cosets, Normal Subgroup, Cyclic Group, Lagrange's Theorem.

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HISAR-125001 (Haryana)

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Unit - III


Graphs Theory: Introduction to Graphs, Multi Graph, Directed and Undirected Graphs, Subgraphs, Bipartite Graphs, Regular Graphs, Connected Graphs, Homomorphic and Isomorphic Graphs, Cut points and Bridges, Paths and Circuits, Euler Graph, Hamiltonian Graph, Planar Graph, Euler Formula, Weighted Graphs, Dijkstra's Shortest Path Algorithm for Weighted Graphs, Trees, Spanning Trees, Minimum Spanning Tree (Prim's and Kruskal's Algorithm).

Unit - IV

Introduction to Optimization Techniques, Origin & Development of O.R., Nature & Characteristic features of O.R., Models & Modeling in Operation Research. Methodology of O.R. Linear Programming : Formulation, Graphical solution, standard and matrix forms of linear programming problems, Simplex method and its flow chart, Two phase Simplex method, Degeneracy.

Text and Reference Books:

1. S. Lipschutz and M. Lipson, Discrete Mathematics, Tata McGraw Hill, 3rd Edition, 2010.
2. C. L. Liu, Elements of Discrete Mathematics, Tata McGraw Hill, 3rd Edition, 2008.
3. Kenneth H. Rosen, Discrete Mathematics and its applications, 6th Edition, Tata McGraw Hill, 2011.
4. B. Kolman, R. C. Busby and S. C. Ross, Discrete Mathematical structures, 6th Edition, PHI, 2010.
5. J.P. Trembley and R. Manohar, Discrete Mathematical Structures with Applications to Computer Science, Tata McGraw Hill – 13th reprint, 2012.
6. Sharma, S.D., Operations Research, KedarNath and Ram Nath, Meerut.
7. Taha, H.A., Operation Research - An Introduction, McMillan Publishing Co, New York.
8. Gupta P.K., Hira and D.S., Operation Research, Sultan Chand & Sons, New Delhi.


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MCA-26 Data Structures and Algorithms Lab.

General Course Information

Course Code: MCA-26 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Programming in C/C++ language.

About the Course

This lab course involves implementation of basic and advance data structures and various operations on these data structures. The objective of the lab course is to train the students to solve the problems related to data structures and choose the appropriate data structure for solving computational problem efficiently.

Course Outcomes: By the end of the lab course a student would be able to:

- CO1. **Implement** various data structures and the related operations.
- CO2. **Analyse** space and time complexity of algorithms.
- CO3. **Compare** solutions on the basis of the appropriateness of data structure used and the efficiency of the operations implemented.
- CO4. **Integrate** knowledge of data structures to solve real world problems related to data structure and algorithms.
- CO5. **Create** written records for the given assignments with problem definition, design of solution and conclusions.
- CO6. **Demonstrate** ethical practices while solving problems individually or in groups

List of experiments/assignments

1. Two assignments related to creating and manipulating matrices and linear lists.
2. Two assignments associated with linked list, operations on linked lists and their applications.
3. Two assignments on array and linked implementation of stacks and queues.
4. Two assignments on trees and their applications.
5. Two assignments on graphs and their applications.
6. Two assignments on different searching and sorting methods with their complexity analysis.
7. One assignment on challenging problems on data structures to be given in groups.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

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MCA-27 Python Programming Lab

General Course Information

Course Code: MCA-17 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. Sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. File and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Basic programming skills

About the Course:


Python is a scripting programming language known for both its simplicity and wide breadth of applications. For this reason, it is considered one of the best languages for beginners. Used for everything from web development to scientific computing Python is referred to as a general-purpose language by the greater programming community. The major objective of Python language is to make the students solve real word problem efficiently using python library.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Implement** solutions to the given assignments in Python.
- CO2. **Use** various Python packages for solving different programming problems.
- CO3. **Devise** solutions for complex problems of data analysis and machine learning.
- CO4. **Evaluate** the output of data analysis and machine learning models.
- CO5. **Create** lab records of the solutions for the given assignments.
- CO6. **Demonstrate** use of ethical practices, self-learning and team spirit.

List of experiments/assignments

1. Install Python and explore various popular IDE like IDLE, PyCharm, and Anaconda.
2. Assignments to perform various number operations like
 - a. Find maximum from a list of numbers
 - b. GCD of two number
 - c. Square root of a number
 - d. Check number is prime or not.
 - e. Print first N prime numbers
 - f. Remove duplicate numbers from list
 - g. Print the Fibonacci series.
3. Assignments to perform various operations on Strings like creation, deletion, concatenation.
4. Create a List L = [10, 20, 30]. Write programs to perform following operations:
 - a. Insert new numbers to list L.
 - b. Delete numbers from list L.
 - c. Sum all numbers in list L.
 - d. Sum all prime numbers in list L.
 - e. Delete the list L.


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5. Create a Dictionary D= {'Name': 'Allen', 'Age': 27, 5:123456}. Write programs to perform following operations:
 - a. Insert new entry in D.
 - b. Delete an entry from D.
 - c. Check whether a key present in D.
 - d. Update the value of a key.
 - e. Clear dictionary D.
 6. Two assignments on Sets to perform various operation like union, intersection, difference etc.
 7. Two assignments related to searching operation like linear search, binary search.
 8. Three assignments related to sorting like selection sort, bubble sort, insertion sort.
 9. Demonstrate the use of dictionary for measuring student marks in five subjects and you have to find the student having maximum and minimum average marks.
 10. Two assignment on usage of different available packages like random package to perform
 - a. Print N random numbers ranging from 100 to 500.
 - b. Print 10 random strings whose length between 3 and 5.
 11. Two assignments on usage of package such as Numpy, Pandas.
 12. Implement and demonstrate the functions of a simple calculator.
 13. One assignment on implementing object oriented concept such as classes, inheritance, and polymorphism.
 14. One assignment on file handling that how data is read and written to a file.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.



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MCA-28: Artificial Intelligence Lab

General Course Information:

<p>Course Code: MCA-28 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments</p>	<p>Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.</p>
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Prerequisite

Basic knowledge of HTML, XML, ASP, JSP and Web Designing.

About the Course

In this course, the learners will be able to develop expertise related to general purpose problem solving, Representation of knowledge, Reasoning under uncertainty, Planning and Natural Language processing

Course Outcomes: By the end of the course students will be able to:


- CO1. Outline various Artificial Intelligence techniques.
- CO2. Illustrate reasoning under uncertainty.
- CO3. Apply search and knowledge representation techniques to solve AI problems.
- CO4. Compare strengths and weaknesses of AI algorithms.
- CO5. Combine various AI techniques to solve intelligent systems' problems.

List of Experiments:

1. Write a program to implement BFS/DFS Traversal?
2. Write simple facts for the statements and querying it.
3. Write a program for Family-tree.
4. Write Program for Monkey-banana Problem.
5. Write a program to implement Tic-Tac-Toe game.
6. Write programs for computation of recursive functions like factorial Fibonacci numbers, etc.
7. Write program to solve 5-queens problem.
8. Write a Program for water jug problem.
9. Write a program for travelling salesman problem.
10. Write a program to implement all set operations.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.


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MCA-31: Machine Learning

General Course Information:

Course Code: MCA-31 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite

Basics of Linear Algebra and Statistics, Basics of Probability Theory, Basic programming constructs of an object-oriented programming language like C++, Java or Python. Some fundamental data structures like array, string, list, tree, graph etc.

About the Course

This course introduces several fundamental concepts and methods for machine learning. This course includes various machine learning techniques including linear regression, clustering, classification, decision trees, Bayesian learning, artificial neural networks, support vector machine, data reduction techniques and latest topic like deep learning methods. The objective is to familiarize the students with the prevalent machine learning algorithms, techniques and their applications. The main objective of the course to equip the students with recent fundamental techniques of machine learning that will help him or her to become a proficient data scientist, data analyst or a skilled knowledge worker.

Course Outcomes: By the end of the course students will be able to:

- CO1. Describe fundamental terminologies and different types of machine learning
- CO2. Interpret the results and pattern obtained for different machine learning algorithms
- CO3. Apply machine learning techniques to solve real world problems
- CO4. Analyse the performance of different machine learning algorithms
- CO5. Compare various machine learning techniques on different parameters
- CO6. Design machine learning algorithms for data classification, pattern recognitions, optimization and searching problems

Course Contents

Unit – 1

Introduction: What is machine learning? Types of machine learning, Examples of machine learning applications: learning associations, classifications, regression, unsupervised learning, reinforcement learning.

Unsupervised learning: k-mean clustering, self-organizing feature map (SOM algorithm)

Dimensional Reduction: Principal Component Analysis.

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Unit – II

Decision tree: Introduction, decision tree representation, appropriate problem for decision tree learning algorithm, basic decision tree learning algorithm, entropy measures, information gain measures, Example problem for illustrating ID3.

Regression: Linear regression, linear regression examples.

Unit –III

Artificial neural network: Introduction, biological motivation, neural network representation, appropriate problem for neural network learning, perceptron, representation power of perceptron, perceptron training rule, gradient descent and delta rule, multilayer network and backpropagation algorithm, a differentiable threshold unit, the backpropagation algorithm, convergence and local minima, deep learning.

Unit– IV

Bayesian learning: Introduction, Bayes theorem, Naive Bayes classifiers.

Instance based learning-nearest neighbour learning, remarks on k-nearest neighbour algorithm.

Support Vector Machines: optimal separation, kernels, extensions to the support vector machine

Text and Reference Books:

1. Tom M. Mitchell, Machine Learning, McGraw-Hill, 1997
2. Stephen Marsland, Machine Learning, Chapman and Hall /CRC, 2009
3. Ethem Alpaydin, Introduction to Machine Learning, PHI, 2004
4. Bishop Christopher, Pattern Recognition and Machine Learning, Springer Verlag, 2006.
5. Trevor Hastie, Robert Tibshirani, Jerome Friedman, The Elements of Statistical Learning: Data Mining, Inference and Prediction, Springer, 2nd edition, 2009
6. J. Han and M. Kamber, Data Mining Concepts and Techniques, 3rd Edition, Elsevier, 2012.

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MCA-32 Advance Operating Systems

General Course Information

Course Code: MCA-32 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite

Knowledge of computer fundamentals, Data Structures and programming in C. C is the primary implementation language for systems that we will analyze, requiring reading fluency; user space C programs will also be written and may be extended as part of lab exercises. Be comfortable with UNIX command-line environment.

About the Course

The objective of this course is to help students become familiar with the fundamental and advanced concepts of operating system and provide them with enough understanding of operating system design.

Course Outcomes: By the end of the course students will be able to:

- CO1. List various functions, types and architectural characteristics of operating systems.
- CO2. Explain fundamental concepts of operating systems.
- CO3. Apply operating system design concepts for solving problems regarding CPU scheduling, management of processes, file management, Distributed OS and deadlocks etc.
- CO4. Analyze the issues related to various operating systems.
- CO5. Design solutions for the memory and process management problems based on different algorithms.

Course Contents

Unit –1

Introductory Concepts: Operating systems functions and characteristics, Computer system organization, Computer system architecture, operating system structure, Virtual machines, Protection & security, operating system services and system calls, Types of Operating systems: Batch operating system, Time-sharing OS, Distributed operating system, Real time systems. NOS, Multiprocessor OS, Mobile OS, RTOS, Cloud OS

Unit - II

Processes: Process in memory, Process states, PCB, Process scheduling, Inter-process communication, CPU scheduling: Levels of Scheduling, Scheduling criteria, Scheduling algorithms, Multithreading models. Thrashing.

File Systems: Types of Files and their access methods, File allocation methods, Directory structure

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Unit -III

Distributed OS- types of distributed operating systems, Network topology, Communication protocols. Issues in Distributed operating systems

Deadlocks- Deadlock characterization, Methods for handling deadlocks, Deadlock prevention, Deadlock avoidance, Recovery from deadlock.

Unit- IV

Memory: Basic hardware, Address binding, swapping, logical and physical address space, Contiguous memory allocation, Fragmentation, Paging, TLB, Segmentation, Virtual memory- Demand paging, Page replacement algorithms.

Case Studies: Comparative study of WINDOW, UNIX & LINUX system.

Text and Reference Books:

1. Advanced Concepts in Operating Systems, by Mukesh Singhal, Niranjana G. Shivaratri, TMH.
2. Operating System Concepts, (6th Edition), by Abraham Silberschatz, Peter Baer Galvin, Greg Gagne.
3. Theory and problem of programming with C, Byron C Gottfried, TMH
4. Teach yourself all about computers by Barry Press and Marcia Press, 2000, IDG Books India.
5. Using Computers and Information by Jack B. Rochester, 1996, Que Education & Training.

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MCA-33: Data Analytics

General Course Information:

Course Code: MCA-33 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite

Basic programming skills, basic statistics.

About the Course

In this course, the learners will be able to develop expertise related to

1. Learn to load, clean/process, and transform the data
2. Learn to analyse and interpretation of the data using recent approaches
3. User of languages, algorithms as well as mathematical and statistical models.
4. Problem formulation and selection of appropriate models for data to solve the hidden solutions to business-related challenges.
5. Working with different types of method for data representation.
6. Incorporating data mining software to solve real-world problems.
7. Apply algorithms to build the machine more intelligence.

Course Outcomes: By the end of the course students will be able to:

- CO1. Define the basic terms related to data science
- CO2. Describe data with statistical summaries and plots
- CO3. Build predictive models.
- CO4. Analyse the quality of a model fit
- CO5. Interpret and evaluate predictive models
- CO6. Conclude the findings of predictive modelling.

Course Contents

Unit – 1

Data science preliminaries: scales of measurements and their implementation. Working with vectors, matrices and tabular data (data frames), reading and writing tabular data from and to files. Packages for reading and writing data from and to EXCEL files. Describing data with statistical summaries (mean, median, mode, variance and standard deviation). Discriminating between sample and population, Quantile-Quantile plot. writing user-defined functions in R/Python. Manipulating tabular data: Sorting, filtering cases, selecting variables, deriving new variables, grouping and summarizing data. working with packages (dplyr, tidyverse or any equivalent package in Python) for data manipulations and transformations, discovering correlation between attributes.


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Visualizing data through various plots and charts: pie chart, bar charts, histogram, frequency polygon, density plots, scatter plots, box & whisker plots, heat maps and contour plots., plotting the above graphs in R/Python, plotting with package- ggplot2 in R or any equivalent package in Python.

Simple and multiple linear regression modelling: estimating the coefficients, assessing the accuracy of the coefficient estimates, assessing the accuracy of the model. Logistic regression modelling, building regression models in R/Python.

Classification Modeling: The process of classification, decision tree, bayesian, k-nearest neighbor, support vector machine classification models and their implementation in R/Python. evaluating a classification model: confusion matrix, accuracy, sensitivity, specificity, f-measure, kappa statistics, ROC and area under curve. accuracy and interpretability of classification models. **Evaluating the accuracy of a classifier:** holdout or random sampling methods, cross-validation, bootstrap methods.

1. Han, J., Kamber, M, Pei, J., Data Mining Concepts and Techniques, Third edition, Morgan Kaufmann, 2012.
2. W. N. Venables, D. M. Smith and the R core Team, An introduction to R, Notes on R: A Programming Environment for Data Analysis and Graphics, version 3.3.2, 2016.
3. Gareth James, Daniela Witten, Trevor Hastie, Robert Tibshirani, An Introduction to Statistical Learning with Applications in R, Springer, 2013.
4. Hadley Wickham and Garrett Golemund, R for Data Science Import, Tidy, Transform and model Data, O'Reilly, 2017.
5. Roger D. Peng, R Programming for Data Science, Lean Publishing, 2015.
6. Beazley, D., & Jones, B. K. Python Cookbook: Recipes for Mastering Python 3. O'Reilly Media, 2013.
7. Muller, A. C., & Guido, S. Introduction to Machine Learning with Python: A Guide for Data Scientists. O'Reilly 2016
8. Paul Teeter, R Cookbook, O'Reilly, 2011.

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MCA-34 Cyber Security

General Course Information:

Course Code: MCA-34 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisite

Computer networks, essentials of computer security, programming languages like python, java etc.

About the Course

The increase in techniques for unauthorized access into systems has led to variety of cyber- attacks. To mitigate the exploitation of the vulnerabilities leading to these attacks, we need to adopt robust security architecture into our premises. We have to choose between various cyber security technologies. In the current scenario, we require to secure end-to-end devices, networks, networking devices. The objective of this course is to enable students to get acquainted to cyber security principles to be followed while working online and offline.

Course Outcomes: By the end of the course students will be able to:

- CO1. Recognize the terminology associated with cyber security.
- CO2. Represent cyber security in terms of ethics, principles, Intellectual property and Trademarks.
- CO3. Analyze cyber activities on the internet to follow IT Act.
- CO4. Evaluate cybercrime situations and recommend appropriate cyber security laws
- CO5. integrate frameworks to sustain critical infrastructures.

Course Contents

Unit - 1

Cyber Security Fundamentals: Network and Security Concepts: Firewalls, Virtualization, DNS, Radio- Frequency Identification, Attacker Techniques and Motivations: Tunneling Techniques, Fraud Techniques, Threat Infrastructure, Exploitation, Malicious code. Defense and Analysis Techniques.

Unit - II

Ethics in Cyber Security: Privacy, Intellectual property in the cyberspace, Professional ethics, Freedom of speech, Fair user and ethical hacking, Trademarks, Internet fraud, Electronic evidence, Forensic technologies, Digital evidence collections. Tools and methods used in cybercrime: Introduction, Password cracking, Keyloggers and spywares, Virus and worms, Phishing and identity theft, Trojan horses and backdoors, Steganography

Unit – III


Cyber crimes and Cyber security: Cyber crime and legal landscape around the world, Cyber laws, The Indian IT Act, Challenges, Digital signatures and Indian IT Act, Amendments to the Indian IT Act, Cyber crime and punishment, Cost of Cyber crimes and IPR Issues, Web threats for organizations, Social computing and associated challenges for organizations.

Unit – IV

Protecting Critical Infrastructures: Critical Infrastructures: Key Assets, Critical Infrastructure Interdependencies, Internet, Social Media and Cyber Attacks on Critical Infrastructures, Cyber Threat Spectrum- Cyberspace Attacks and Weapons, Framework for improving Critical Infrastructure Cyber security.

Text and Reference Books:

1. James Graham, Richard Howard, "Cyber Security Essentials", CRC Press, Taylor & Francis Group, ISBN: 978-1-4398-5126-5, 2011.
2. Thomas A. Johnson, "Cyber-Security Protecting Critical Infrastructures from Cyber Attack and Cyber Warfare", CRC Press, ISBN:978-1-4822-3923-2, 2015.
3. Nina Godhole and Sunit Belapure, Cyber Security, Wiley India, 2011.


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General Course Information

<p>Course Code: MCA-35 Elective I</p> <p>Course Credits: 3</p> <p>Type: Professional Core</p> <p>Contact Hours: 3 hours/week</p> <p>Mode: Lectures (L)</p> <p>Exam Duration: 3 hours</p>	<p>Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks.</p> <p>The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.</p>
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Pre-requisites:

The students are expected to have a strong background in the fundamentals of discrete mathematics like in the areas of symbolic logic, set, induction, number theory, summation, series, combinatorics, graph, recursion, basic proof techniques.

About the Course:

Formal Languages and Automata theory presents the theoretical aspects of computer science, which lay the foundation for students of Computer Science. The course introduces some fundamental concepts in automata theory and formal languages including grammar, finite automaton, regular expression, formal language, pushdown automaton and Turing machine.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Define** terminology related to theory of computation.
CO2. **Explain** the basic concepts and applications of Theory of Computation.
CO3. **Apply** the principles of Theory of Computation to solve computational problems.
CO4. **Compare and contrast** the hierarchy of grammars.
CO5. **Design** various types of automata for given problems.

Course Content

Unit - I

Finite Automata and Regular Expressions: Finite State Systems, Basic Definitions, Non-Deterministic finite automata (NFA), Deterministic finite automata (DFA), Equivalence of DFA and NFA, Finite automata with ϵ -moves, Regular Expressions, Equivalence of finite automata and Regular Expressions, Regular expression conversion and vice versa, Conversion of NFA to DFA by Arden's Method.

Unit - II

Introduction to Machines: Concept of basic Machine, Properties and limitations of FSM. Moore and mealy Machines, Equivalence of Moore and Mealy machines.

Properties of Regular Sets: The Pumping Lemma for Regular Sets, Applications of the pumping lemma, Closure properties of regular sets, Myhill-Nerode Theorem and minimization of finite Automata, Minimization Algorithm.

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Unit - III

Grammars: Definition, Context free and Context sensitive grammar, Ambiguity regular grammar, Reduced forms, Removal of useless Symbols and unit production, Chomsky Normal Form (CNF), Griebach Normal Form (GNF).

Pushdown Automata: Introduction to Pushdown Machines, Application of Pushdown Machines

Unit - IV


Turing Machines: Deterministic and Non-Deterministic Turing Machines, Design of T.M, Halting problem of T.M., PCP Problem.

Chomsky Hierarchies: Chomsky hierarchies of grammars, Unrestricted grammars, Context sensitive languages, Relation between languages of classes.

Computability: Basic concepts, Primitive Recursive Functions.

Text and Reference Books:

1. Hopcroft & O. D. Ullman, R Mothwani, Introduction to automata theory, language & computations, AW, 2001.
2. K. L. P. Mishra & N. Chandrasekaran, Theory of Computer Sc.(Automata, Languages and computation), PHI, 2000.
3. Peter Linz, Introduction to formal Languages & Automata, Narosa, Publication, 2001.
4. Ramond Greenlaw and H. James Hoover, Fundamentals of the Theory of Computation- Principles and Practice, Harcourt India Pvt. Ltd., 1998.
5. H. R. Lewis & C. H. Papaditriou, Elements of theory of Computation, PHC, 1998.
6. John C. Martin, Introduction to Languages and the Theory of Computation, T.M.H., 2003.


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MCA-36 Machine Learning Lab.

General Course Information

Course Code: MCA-36 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Programming in Java, Python, R and Octave/MATLAB.

About the Course:

In this lab. course, students learn to solve optimization, supervised and unsupervised learning problems using machine learning tools. Students will use machine learning tools available in WEKA, R, Python and Octave etc. The lab experiments involve downloading datasets and applying machine learning techniques on these datasets. The course has a special focus on interpreting and visualizing results of machine learning algorithms.

Course Outcomes: By the end of the course students will be able to:

- CO1. Implement machine learning algorithms using modern machine learning tools.
- CO2. Analyse the trends in datasets using descriptive statistics.
- CO3. Apply descriptive and predictive modelling.
- CO4. Compare and contrast machine learning algorithms for a given problem. (describe datasets using descriptive statistics.
- CO5. Create lab records of assignment by incorporating problem definitions, design of solutions, results and interpretations.
- CO6. Demonstrate use of ethical practices, self-learning and team spirit.

List of experiments/assignments

1. Install WEKA/R/Python/Octave and learn to use these software packages.
2. Two assignments related to classification algorithms and interpreting the results of these algorithms.
3. Two assignments related to clustering algorithms and interpreting the results of these algorithms.
4. Three assignments on designing neural networks for solving learning problems.
5. Two assignments on ranking or selecting relevant features.
6. Two assignments on linear regression and logistic regression.
7. One assignment to be done in groups.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

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MCA-37 Data Analytics Lab

General Course Information

Course Code: MCA-38 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Basic programming skills.

About the Course:

In this course, the learners will be able to develop working expertise of

1. To provide an overview of language R/Python/Excel used for data science.
2. To introduce students to the programming environment and research environments
3. To introduce the extended use of libraries and packages
4. To familiarize students with how various statistics concepts for data exploration
5. To familiarize with classification regression algorithm.
6. To make understand about data visualization techniques in R.

Course Outcomes: By the end of the course students will be able to:

- CO1. Apply basic concepts related to data science
- CO2. Implementation of data with statistical summaries and plots.
- CO3. Designing predictive models.
- CO4. Analyse the quality of a designed model fit.
- CO5. Interpret and evaluate the result of predictive models.
- CO6. Evaluation of predictive modelling.

List of experiments/assignments:

1. To provide an overview of a language used for data science.
2. Implement statistics like mean median etc. can be collected for data exploration
3. Write a small program to implement all basic concepts
4. Exercise with file handling packages.
5. Write a script for statistics techniques (mean, mode, median, variance, standard deviation)
6. Design user define functions to apply processes on dataset.
7. Write a script to work with tabular/ data frame using dataset.
8. Exercise with different types of popular packages.
9. Script to detect outlier and missing values.
10. Write scripts to implement predictive model.
11. Write a code to apply/analyse predictive model fitness.
12. Write scripts on classification and regression algorithms
13. Script for interpretation of confusion matrix from model.
14. Implement the sampling methods for dataset.
15. Implement Bootstrap method.
16. Script for cross validation example.
17. Draw all types of graph with example in different scripts

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Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

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MCA-38 Industrial Training

General Course Information

Course Code: MCA-38 Course Credits: 2 Mode: Self learning in industry.	Course Assessment Methods (100) An internal evaluation is done by the course coordinator. Significance and originality of the problem addressed and the solution provided: 20 Knowledge of the problem domain and the tool used (VIVA-VOCE): 25 Report Writing: 20 Judgment of the tools learnt and quality of the solution developed: 20 Level of Ethics followed: 15
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Prerequisite: Knowledge of UNIX, Windows, a programming language and data structures

About the Industrial Training:

Students do a minor project in industry after second semester. They are expected to learn any tool/software and develop applications that can be completed within 4 to 6 weeks.

Course Outcomes: After doing minor projects students will be able to:

- CO1. Identify a suitable problem from the environment around.
- CO2. Survey the design of similar problems.
- CO3. Select suitable application area/specialisation and modern IT tools.
- CO4. Address the problem in an original and innovative manner.
- CO5. Communicate orally as well as in written (minor project report) about the application developed.
- CO6. Engage in ethical practices, individual and team work, and lifelong learning.


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MCA-41 IoT and Cloud Computing

General Course Information

Course Code: MCA-41 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: Basics of Computer Network, Distributed System.

About the Course:

The objective of the course is to give students a comprehensive view understanding of the vision and impact of IoT and Cloud, cloud and IoT Market perspective and IoT and Cloud architecture and IoT

Course Outcomes: By the end of the course students will be able to:

- CO1. Define concepts related to internet of things and cloud computing.
- CO2. Express the current status and expected future directions of the internet of things and cloud.
- CO3. Apply cloud computing techniques for various applications.
- CO4. Analyse cloud computing services used at various levels.
- CO5. Identify and propose applications which advance the cloud and IoT.
- CO6. Develop cloud based applications which advance the IoT.

Course Content

Unit - I

Overview of Cloud Computing: Brief history and evolution - history of cloud computing, evolution of cloud computing, traditional vs. cloud computing, cloud service models (IaaS, PaaS & SaaS), cloud deployment models (public, private, hybrid and community cloud), benefits and challenges of cloud computing, introduction to AWS public cloud vendor, cost optimization in AWS, basics of virtualization, virtualization technologies, server virtualization, VM migration techniques, role of virtualization in cloud computing, introduction to EC2 service of AWS.

Unit - II

Working with Private Cloud: Private cloud definition, characteristics of private cloud, private cloud deployment models, private cloud vendors - CloudStack, OpenStack, Eucalyptus Microsoft, private cloud ± benefits and challenges, private cloud implementation in Amazon EC2 service.

Unit - III

Working with Public Clouds: What is public cloud, why public cloud, when to opt for public cloud, public cloud service models, public cloud players, infrastructure as a service offering, IaaS

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vendors, PaaS offerings, PaaS vendors, software as a service, demonstrating public cloud with AWS ± storage and database services, private vs. public cloud ± when to choose.


Unit - IV

IoT Architecture- Introduction, State of the art: Architecture reference model- introduction, reference model and architecture, IoT reference model.

IoT Reference Architecture: IoT reference architecture- introduction, functional view, information view, deployment and operational view, other relevant architectural views, real- world design constraints- introduction, technical design constraints-hardware is popular again, data representation and visualization, interaction and remote control.

Text and Reference Books:

1. Jan Holler, Vlasios Tsiatsis, Catherine Mulligan, Stefan Avesand, Stamatis Karnouskos, David Boyle, "From Machine-to-Machine to the Internet of Things: Introduction to a New Age of Intelligence", 1st Edition, Academic Press, 2014.
2. Hwang Kai, Fox Geoffrey C, Dongarra Jack G, "Distributed and Cloud Computing, From Parallel Processing to the Internet of Things", Morgan Kaufmann Publishers, 2011.
3. Rittinghouse John W. and Ransome James F., "Cloud Computing: Implementation, Management, and Security", CRC Press, 2009.
4. Velte Toby, Velte Anthony, Elsenpeter Robert, "Cloud Computing, A Practical Approach", TMH, 2013.
5. Vijay Madiseti and Arshdeep Bahga, "Internet of Things (A Hands-on- approach)", 1st Edition, VPT, 2014.


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(B-17, 12300) (Haridwar)

MCA-42 Mobile Application Development

General Course Information

Course Code: MCA-42 Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: Java Programming and Object-Oriented programming, Knowledge of RDBMS and OLTP.

About the Course:

Mobile Application Development has been introduced as a Professional Elective course for Students keeping in view the Employers' requirements. Android Platform forms the basis for developing Mobile Applications since the last decade as compared to IOS Platform for Apple Products. The Environment requires User Interface to be developed using Buttons, Check-Boxes, Alert Dialog and its kind.

Course Outcomes: By the end of the course students will be able to:

- CO1. State basics of Android, its Evolution and its Architecture.
- CO2. Demonstrate the Lifecycle of Software for Android Mobile Applications.
- CO3. Prepare Mobile Applications on the Android Platform.
- CO4. Compare working with Buttons and other Widgets for Visual Environment.
- CO5. Develop Mobile Applications using data storage in SQLite Database and evaluate its Performance.

Course content

Unit - I

Mobile OS Architecture: Android, Blackberry OS, Firefox OS, IOS, Window OS, ARM and MIPS processor, Challenges of the mobile platform, Hello Android example, Internal Details, Dalvik VM, Software Stack, Android Core Building Blocks, Android Emulator, Android Manifest.xml, R.java file, Hide Title Bar, Screen Orientation.

Unit - II

UI Widgets: Working with Button, Toast, Custom Toast, Button, Toggle Button, Switch Button, Image Button, CheckBox, Alert Dialog, Spinner, AutoCompleteTextView, RatingBar, DatePicker, TimePicker, ProgressBar, Quick Contact Budge, Analog Clock and Digital Clock, Working with hardware Button, File Download.

Unit - III

Activity, Intent & Fragment: Activity Lifecycle, Activity Example, Implicit Intent, Explicit

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Intent, Fragment Lifecycle, Fragment Example, Dynamic Fragment.

Android Menu: Option Menu, Context Menu, Popup Menu

Layout Manager: Relative Layout, Linear Layout, Table Layout, Grid Layout.

Unit - IV

Adaptor: Array Adaptor, ArrayList Adaptor, Base Adaptor.


View: GridView, WebView, ScrollView, SearchView, TabHost, DynamicListView, Expanded ListView.

SQLite: SQLite API, SQLite Spinner, SQLite ListView

XML & JSON: XML Parsing SAX, XML Parsing DOM, XML Pull Parser, JSON basics, JSON Parsing.

Text and Reference Books:

1. Redazione Io Programmo, Android Programming, 2011
2. John Horton, Android Programming for Beginners, packt publishing, 2015
3. Jason Wei, Android Database Programming, packt publishing, 2012
4. MarkLMurphy,AndroidProgrammingTutorials,3rdEdition, 2010
5. Bill Phillips et al., Android Programming - The "Big Nerd Ranch" Guide 2017
6. Rick Rogers et al., Android Application Development: Programming with the Google SDK, 2009


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MCA – 43(i) Big Data Analytics

General Course Information

Course Code: MCA-43 Elective II Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: Basics of statistics and data mining.

About the Course:

This course aims to provide students with the knowledge of current challenges, methodologies and technologies in processing big data. Emphasis will be placed on the students' understanding of the rationales behind the technologies and the students' ability to analyse big data using professional packages and tools.

Course Outcomes: By the end of the course students will be able to:

- CO1. Recall the concepts of big data analysis.
- CO2. Interpret the outcomes of big data analysis.
- CO3. Apply technical skills and modern tools for descriptive and predicative modelling.
- CO4. Analyse a framework for visualization of big data analytics for business user.
- CO5. Examine critically the results of mining to support business decision-making.
- CO6. Design schemes for big data analytics for solving big data problems in efficient manner.

Course Content

Unit - I

Introduction: Overviews of Big Data, State of the Practice in Analytics, The Data Scientist, Big Data Analytics in Industry Verticals, Data Analytics Lifecycle Challenges of Conventional Systems, Statistical Concepts: Sampling Distributions, Re-Sampling, Statistical Inference, Prediction Error, Regression Modelling, Multivariate Analysis, Bayesian Modelling.

Unit - II

Mining Data Streams: Stream Data Model and Architecture, Stream Computing, Sampling Data in a Stream, Filtering Streams, Counting Distinct Elements in a Stream, Estimating Moments, Counting Oneness in a Window, Decaying Window, Real time Analytics, Platform (RTAP) Applications, Case Studies, Real Time Sentiment Analysis, Stock Market Prediction

Unit - III

Frequent Itemset and Clustering: Mining Frequent Itemsets, Market Based Model: Apriori Algorithm, Handling Large Data Sets in Main Memory, Limited Pass Algorithm, Counting

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Frequent Itemsets in a Stream, Clustering based Techniques: Hierarchical, K-Means etc., Clustering High Dimensional Data, CLIQUE And PROCLUS, Frequent Pattern based Clustering Methods, Clustering in Non-Euclidean Space, Clustering for Streams and Parallelism.

Unit - IV

Frame works and Visualization: Overview of Map Reduce, Hadoop, Hive, MapR, Sharding, No SQL Databases, S3, HADOOP, Distributed File System (HDFS), Visualizations: Visual Data Analysis Techniques, Interaction Technique and Applications.

Text and ReferenceBooks:

1. Michael Berthold, David J. Hand, Intelligent Data Analysis, Springer, 2007.
2. A. Rajaraman, J.D. Ullman, Mining of Massive Datasets, Cambridge University Press, 2012.
3. Bill Franks, Taming the Big Data Tidal Wave: Finding Opportunities in Huge Data Streams with Advanced Analytics, John Wiley & sons, 2012.
4. Glenn J. Myatt, Making Sense of Data, John Wiley & Sons, 2007
5. Pete Warden, Big Data Glossary, O'Reilly, 2011.

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General Course Information

Pre-requisites: Preliminary knowledge of Software Engineering.

The course involves training students in software project management and project planning. It focuses on the need for careful planning, monitoring and control for delivering quality projects in time. Besides this student learn to measure the success of a project in meeting its objectives.

- CO1. **Outline** basic concepts related to stepwise project planning.
- CO2. **Demonstrate** the knowledge about Quality Control, Standard and Risk Management.
- CO3. **Illustrate** the Activity Planning, and Resource Allocation Process.
- CO4. **Apply** the concept of team structure and organization structure.
- CO5. **Compare** various Project Evaluation and Estimation Techniques.
- CO6. **Plan** activities necessary for completing the software projects successfully.

Unit - I

Stepwise Project Planning: Introduction, selecting a project, identifying project scope and objectives, identifying project infrastructure, analysing project characteristics, identifying the project products and activities, estimate efforts for each activity, identifying activity risk, allocate resources, review/publicize plan.

Project Evaluation and Estimation: Cost-Benefit analysis, cash flow forecasting, cost benefit evaluation techniques, Selection of an appropriate project, choosing technologies, choice of process models, rapid application development, waterfall model, V process model and spiral model, Albrecht function point analysis.

Activity Planning: Objectives of activity planning, project schedule, projects and activities, sequencing and scheduling activities, network planning model.

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Unit - III

Risk Management: Introduction, the nature of risk, managing risk, risk identification, risk analysis, reducing the risks, evaluating risks to schedule, calculating z-values.

Resource Allocation: Introduction, the nature of resources, identifying resource requirements, scheduling resources, creating critical paths.

Unit - IV

Managing Contracts and People: Introduction, types of contract, stages in contract placement, terms of contract, contract management, acceptance, managing people and organizing teams: Introduction, understanding organization behaviour: a background, selecting the right person for job, instruction in best methods, motivation, working in groups, becoming a team, decision making, leadership, organization structures.

Software Quality: Introduction, the place of software quality in project planning, the importance of software quality, defining software quality, McCall's software quality factors, product versus process quality management, external standards, techniques to enhance software quality.

Text and Reference Books:

1. Bob Hughes and Mike Cotterell , Software Project Management, Sixth Edition, TMH, 2018.
2. Walker Royce, Software Project Management, , Addison Wesley, 1998.
3. Pankaj Jalote , Software Project Management in Practice, Pearson, 2002.
4. Ramesh, Managing Global Software Projects, TMH, 2005.

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MCA – 43(iii) Digital Image Processing

General Course Information

Course Code: MCA-43 Elective II Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: knowledge of basic linear algebra, basic probability theory, basic programming techniques and Fourier Transforms.

About the Course:

Digital Image Processing is a Professional Elective course that provides a theoretical foundation of digital image processing concepts. This course provides a mathematical foundation for digital manipulation of images, image acquisition, pre-processing, enhancement, segmentation and compression. Students learn algorithms that perform basic image processing operations (e.g., histogram processing, noise removal and image enhancement and restoration). Algorithms for image analysis (e.g., image compression, image segmentation and image representation) are explained.

Course Outcomes: By the end of the course students will be able to:

- CO1. State concepts related to image acquisition and processing.
- CO2. Illustrate the principles and methods in image processing.
- CO3. Apply mathematical functions for digital manipulation of images such as image acquisition, pre- processing, segmentation, compression and representation.
- CO4. Compare various image processing techniques.
- CO5. Assess the various image processing techniques for a given problem.
- CO6. Design and implement algorithms for digital image processing operations such as histogram equalization, filtering, enhancement, restoration and denoising, segmentation, compression.

Course contents

Unit - I

Introduction and fundamental to digital image processing: What is digital image processing, Origin of digital image processing, Examples that use digital image processing, Fundamental steps in digital image processing, Components of digital image processing system, Image sensing and acquisition, Image sampling, Quantization and representation, Basic relationship between pixels. Image enhancement in spatial domain and frequency domain: Background, Basic gray level transformation, Histogram processing, Basics of spatial filtering, Smoothing and sharpening spatial and the frequency domain filters.


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Unit - II

Image Restoration: Image degradation/restoration Process, Noise models, Restoration in presence of noise, inverse filtering, Minimum mean square filtering, Geometric mean filter, Geometric transformations. Color Image Processing: Color fundamentals, Color models, Basics of full color image processing, Color transformations.

Unit - III

Image Compression: Fundamentals, Image compression models, Error free compression, Lossy compression. Image Segmentation: Detection of discontinuities, Edge linking and boundary detection, Thresholding, Region based segmentation.

Unit - IV

Representation, Description and Recognition: Representation-chain codes, polygonal approximation and skeletons, Boundary descriptors-simple descriptors, shape numbers, Regional descriptors- simple, topological descriptors.

Recognition: Pattern and Pattern classes.

Text and Reference Books:

1. Rafael C. Gonzalez and Richard E. Woods, Digital Image Processing, Pearson Education, Ed, 2001.
2. Anil K. Jain, Fundamentals of Digital Image Processing, Pearson Education, PHI, 2001.
3. Tinku Acharya and Ajoy K. Ray, Image Processing-Principles and Applications, John Wiley & Sons, Inc., 2005.
4. Chanda and D. Dutta Majumdar, Digital Image Processing and Analysis, PHI, 2003.
5. Milan Sonka, Vaclav Hlavac, Roger Boyle, Image Processing, Analysis and Machine Vision, 2nd edition, PWS Publishing Company, Thomson Learning, 1999.

MCA – 43(iv) High Speed Networks

General Course Information

Course Code: MCA-43(iv) Elective I Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites

Basic knowledge of computer networks, layers of OSI reference model, protocols at different layers of OSI reference model.

About the course:

High Speed Network Technologies is a professional core course based around Network Architectures, protocols used across the layers, techniques used in communication and modes of data transfer. The course deals with creating High Speed Networks for any organization/institute with its various phases/life cycles.

Course Outcomes: By the end of the course students will be able to:

- CO1. Define different high speed network technologies.
- CO2. Explain working of different wired / wireless technologies suitable for LAN and WAN communication.
- CO3. Illustrate the mapping of OSI reference model to different high speed technologies and Internet Suite of Protocols.
- CO4. Analyze the performance of different high speed technologies in different scenarios / situations.
- CO5. Design a network for any organization using high speed technologies along with Internet connectivity.

Course Content

Unit - I

Gigabit Ethernet: Overview of fast Ethernet, Gigabit Ethernet – overview, specifications, layered protocol architecture, frame format, network design using Gigabit Ethernet, applications, 10GB Ethernet – overview, layered protocol architecture, frame format.

Fiber Channel: Fiber channel – overview, topologies, ports, layered protocol architecture, frame structure, class of service.

UNIT - II

Frame Relay: Protocol architecture and frame format.

ISDN & B-ISDN: Channels, interfaces, addressing, protocol architecture, services.

ATM: Virtual circuits, cell switching, reference model, traffic management.

Unit - III

Wireless Networks: Existing and emerging standards, Wireless LAN (802.11), Broadband Wireless (802.16), Bluetooth (802.15) their layered protocol architecture and security. Mobile Networks – GSM, CDMA.

Unit - IV

Internet Layer: IPV4 and IPV6, IP addressing, IP classes, CIDR.

Transport Layer: UDP/TCP protocols & architecture, TCP connection management.

Application Layer: DNS, E-Mail, Voice over IP.

Text and Reference Books:

1. Jochen Schiller, Mobile Communication, 2nd Edition, Pearson, 2009.
2. Andrew S Tanenbaum, Computer Networks, 5th Edition, Pearson 2013.
3. William C Y Lee, Mobile Communication Engineering: Theory and Applications, 2nd Edition, McGraw Hill, 1997.

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MCA – 44(i) Soft Computing

General Course Information

Course Code: MCA-44 Elective III Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisites: Basic knowledge of Probability Theory, Set Theory and, Data Structure and Computer Algorithms.

About the Course:

We need to learn soft computing techniques to make intelligent machines that possess human like abilities to reason, learn and handle the uncertainty and vagueness often inherent in real world problems. Unlike conventional computing, soft computing techniques are tolerant of imprecision, uncertainty and approximations, and provide low cost, robust and tractable solutions to the complex real-world problems where conventional methods fail to do so. This introductory course on soft computing is going to cover Genetic Algorithms, Artificial Neural Networks and Fuzzy Logic.

Course Outcomes: By the end of the course students will be able to:

- CO1. Define the terminology and concepts related to soft computing techniques.
- CO2. Discuss soft computing techniques including genetic algorithms, fuzzy systems and neural networks.
- CO3. Solve problems related to Genetic algorithms, Fuzzy logic and Neural Networks.
- CO4. Analyse the design of Genetic Algorithms, Neural Networks and Fuzzy Systems.
- CO5. Justify the design of a soft computing algorithm for a given problem.
- CO6. Design Genetic Algorithms and Neural Networks to solve optimization and pattern recognition problems.

Course Content

Unit - I

Introduction to Soft Computing and related definitions: Defining soft computing, Differentiating the situations for application of hard and soft computing; Working of a simple Genetic Algorithm: Representation/Encoding Schemes, initializing a GA population, evaluation function, genetic operators, Function optimization using GA.
Study of parameters of genetic algorithms and its performance, sampling and selection mechanisms. Scaling of GA population.

Unit - II

Designing Genetic Algorithms for different applications: Different types encoding schemes, role of fitness function, different types of genetic operators, Designing GAs for numerical optimization,


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knapsack problem and travelling salesperson and other similar problems.

Unit - III

Fuzzy sets: Basic terminology and definitions, Operations on Fuzzy sets, MF formulations and parameterisation, MFs of one and two dimensions, Derivatives of parameterised MFs, Fuzzy numbers, Extension principle and fuzzy relations, Operations on Fuzzy relations, Linguistic variables, Fuzzy If-Then Rules, Compositional rule of inference.

Unit - IV

Neural networks: Basic terminology and definitions, Model of an artificial neuron, Sigmoid function, Neural Network Architectures, Rosenblatt's Perceptron, Fixed increment perceptron learning algorithm for a classification problem, Examples of learning of AND/OR gate by perceptron, XOR problem. Back Propagation Neural Networks: Architecture of a backpropagation network, Model for multi-layer perceptron, Back propagation learning, Delta or gradient descent learning rule and effect of learning rate, Back propagation learning algorithm.

Text and Reference Books:

1. David. E. Goldberg, Genetic Algorithms in Search, Optimization and machine learning, Addison Wesley, 1999.
2. Zbigniew Michalewicz, Genetic algorithms + Data Structures = Evolution Programs, Springer-Verlag, 1999.
3. M. Mitchell, An Introduction to Genetic Algorithms, Prentice-Hall, 1998.
4. S. Rajasekaran & G. A. Vijayalakshmi Pai, Neural Networks, Fuzzy Logic and Genetic Algorithms: Synthesis & Applications, PHI, 2003.
5. S. N. Sivanandam & S. N. Deepa, Principles of Soft Computing, Wiley - India, 2007.
6. J-S. R. Jang, C.-T. Sun, E. Mizutani, Neuro-Fuzzy and Soft Computing, PHI, 1997.
7. Simon O. Haykin, Neural Networks, A Comprehensive Foundation, PHI, 1994.

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MCA – 44(ii) Compiler Design

General Course Information

Course Code: MCA-44 Elective III Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Prerequisites: Brief knowledge of programming languages, Data Structure, and Algorithm Design

About the Course:

Compilers have become part and parcel of today's computer systems. These are responsible for making the user's computing requirements, specified as a piece of program, understandable to the underlying machine. These tools work as interface between the entities of two different domains – the human being and the machine. The actual process involved in this transformation is quite complex. Compiler design covers basic translation mechanism and, error detection and recovery. It includes lexical, syntax, and semantic analysis as front end, and code generation and optimization as back-end.

Course Outcomes: By the end of the course students will be able to:

- CO1. Describe principles of compiler design.
- CO2. Illustrate the essential phases for automatically converting source code into object code.
- CO3. Apply lexical analysis, syntax analysis and code optimization techniques for solving problems.
- CO4. Analyse a parse tree and a given BNF grammar.
- CO5. Compare and contrast syntax-oriented translation schemes
- CO6. Design a lexical analyser from the specification of a language's lexical rules.

Course Content

Unit - I

Introduction To Compilers: Compilers and translators, need of translators, structure of compiler its different phases, Compiler construction tools.

Lexical Analysis: Role of lexical analyzer, design of lexical analyzer, regular expressions, Specification and recognition of tokens, input buffering, A language specifying lexical analyzer. Finite automata, conversion from regular expression to finite automata, and vice versa, minimizing number of states of DFA, Implementation of lexical analyzer.

Unit - II

Syntax Analysis: Role of parsers, context free grammars, definition of parsing. Parsing Technique: Shift- reduce parsing, operator precedence parsing, top down parsing, predictive parsing.

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Unit - III

LR parsers, SLR, LALR and Canonical LR parser. Syntax Directed Translations: Syntax directed definition, construction of syntax trees, syntax directed translation scheme and implementation of syntax directed translation, three address code, quadruples and triples.

Unit - IV

Symbol Table & Error Detection and Recovery: Symbol tables, its contents and data structure for symbol tables; trees, arrays, linked lists, hash tables. Errors, lexical phase error, syntactic phase error, semantic error.

Code Optimization & Code Generation: Code generation, forms of objects code, machine dependent code, optimization, register allocation for temporary and user defined variables.

Text and Reference Books:

1. Alfred V. AHO, Ravi Sethi and J.D. Ullman, Compilers Principle, Techniques and Tools, Addison Wesley, 2007.
2. Tremblay and Sorenson, Theory and practice of compiler writing, McGraw Hill, 1985.
3. Dhamdare, System software, MGH, 1986.
4. Alfred V. Aho, Jeffrey D. Ullman, Principles of Compiler Design, Narosa Publication, 2002.


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Chandigarh University
School of Technology
Hisar-125001 (Haryana)

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MCA – 44(iii) Data Mining Techniques

General Course Information

Course Code: MCA-44 Elective III Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: Knowledge of database systems, elementary knowledge of statistics and probability.

About the Course:

Today's era is the era of information. Data is growing exponentially day by day. There is a need to process and analyse the data to extract knowledge from it, so that one can use that knowledge for decision making. This course provides introductory concepts of data mining and data warehousing. The course will be taught with a database as well as machine learning perspectives. The objective of the course is to provide a comprehensive understanding of data prep-processing, data mining tasks and evaluation of results obtained out of data mining processes.

Course Outcomes: By the end of the course students will be able to:

- CO1. Outline various types of data mining and data warehouse concepts and techniques.
- CO2. Explain characteristics, architecture of a data warehouse, OLAP operations and data mining tasks.
- CO3. Apply various pre-processing and data mining techniques for extracting valuable information from data.
- CO4. Evaluate the descriptive and predictive data mining models.
- CO5. Plan a data mining process for discovering knowledge from real-world databases.

Course Content

Unit - I

Introduction to Data Mining: Kind of data to be mined, Data Mining Functionalities, Technologies used in Data Mining, Applications of data Mining, Major Issues in Data Mining.

Data Pre-Processing: Need for preprocessing, Data Objects and Attribute types, Statistical description of data, Data Visualization, Measuring similarity and dissimilarity of data, Data Cleaning, Data Integration, Data Reduction, Data Transformation and Data Discretization.

Unit - II

Data Warehouse: Introduction, Data Warehouse and Database Systems, Data Warehouse Architecture, Data Warehouse Models, Data Cube and OLAP, Multidimensional data Model, Concept Hierarchies, OLAP operations, Data Warehouse Implementation

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Unit - III

Mining Associations and Correlations: Mining Frequent Patterns, Associations and Correlations, Frequent Itemset Mining using Apriori Algorithm, Generating Association Rules from Frequent Itemsets. Improving efficiency of Apriori, Pattern Growth Approach for Mining Frequent Itemsets, Pattern evaluation Methods.

Advanced Pattern Mining: Pattern Mining in Multilevel and Multidimensional Space, Constraint-Based Frequent Pattern Mining.


Unit - IV

Classification: Introduction, Classification using Decision Tree Induction, Bayesian Classification Methods, Rule Based Classification, Model Evaluation and Selection, Techniques to Improve Classification Accuracy. Classification by Backpropagation, Support Vector Machines and Lazy Learners.

Cluster Analysis: Introduction, Basic Clustering Methods, Partitioning Methods, Hierarchical Methods, Evaluation of Clustering.

Text and Reference Books:

1. Jiawei Han, Micheline Kamber and Jian Pei, Data Mining Concepts and Techniques, Morgan Kaufmann Publishers, Third Edition, July 2011.
2. Alex Berson, Stephen J. Smith, Data Warehousing, Data Mining & OLAP, Tata McGraw Hill, 2004.
3. Pang-Ning Tan, Michael Steinbach and Vipin Kumar, Introduction to Data Mining, Pearson Education, 2014.
4. K. P. Soman, Shyam Diwakar and V. Ajay, Insight into Data Mining Theory and Practice, Easter Economy Edition, Prentice Hall of India, 2009.
5. G. K. Gupta, Introduction to Data Mining with Case Studies, Prentice Hall of India, 2006.
6. Daniel T. Larose, Data Mining Methods and Models, Wiley, 2006.
7. W. H. Inman, Building the Data Warehouse, Wiley India, 2005.


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Science & Technology
Hisar-125001 (Haryana)

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MCA – 44(iv) Computer Graphics

General Course Information

Course Code: MCA-44 (iv) Elective II Course Credits: 3 Type: Professional Core Contact Hours: 3 hours/week Mode: Lectures (L) Exam Duration: 3 hours	Course Assessment Methods (internal: 30; external: 70) Two minor examinations each of 20 marks, Class Performance measured through percentage of lectures attended (4 marks) Assignment and quiz (6 marks), and end semester examination of 70 marks. The syllabus is divided into four units. For the end semester examination, nine questions are to be set by the examiner. Question number one is compulsory and contains seven short answer questions covering entire syllabus. Rest eight questions are set by giving two questions from each of the unit of the syllabus. A candidate is required to attempt any of four questions selecting at least one from each of the four units. All questions carry equal marks.
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Pre-requisites: Programming skills in C/C++ and Data Structures.

About the Course:

This course involves studying graphic techniques, algorithms and imaging models. Moreover, students learn about the techniques for clipping, cropping, representing 2-D and 3-D objects.

Course Outcomes: By the end of the course students will be able to:

- CO1. State basic concepts related to graphics.
- CO2. Describe the principles of creating graphical objects and graphical user interface applications.
- CO3. Apply 2-D and 3-D transformations (rotation, scaling, translation, shearing) on geometric objects.
- CO4. Use different techniques for clipping and filling geometric objects.
- CO5. Compare different graphics algorithms for different geometric objects.
- CO6. Create user-friendly interfaces for computer applications.

Course Content

Unit - I

Introduction to Computer Graphics: What is Computer Graphics, Computer Graphics Applications, Computer Graphics Hardware and software, Two dimensional Graphics Primitives: Points and Lines, Line drawing algorithms: DDA, Bresenham's; Circle drawing algorithms: Using polar coordinates, Bresenham's circle drawing, mid-point circle drawing algorithm; Filled area algorithms: Scan-line: Polygon filling algorithm, boundary filled algorithm.

Unit - II

Two/Three Dimensional Viewing: The 2-D viewing pipeline, windows, viewports, window to view port mapping; Clipping: point, clipping line (algorithms):- 4 bit code algorithm, Sutherland-cohen algorithm, parametric line clipping algorithm (Cyrus Beck). Polygon clipping algorithm: Sutherland-Hodgeman polygon clipping algorithm.

Two dimensional transformations: transformations, translation, scaling, rotation, reflection, composite transformation.

Three dimensional transformations: Three-dimensional graphics concept, Matrix representation of 3-D Transformations, Composition of 3-D transformation.


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Unit - III

Viewing in 3D: Projections, types of projections, the mathematics of planar geometric projections, coordinate systems.

Hidden surface removal: Introduction to hidden surface removal, Z- buffer algorithm, scanline algorithm, area sub-division algorithm.

Unit - IV

Representing Curves and Surfaces: Parametric representation of curves: Bezier curves, B-Spline curves. Parametric representation of surfaces; Interpolation method.

Illumination, shading, image manipulation: Illumination models, shading models for polygons, shadows, transparency. What is an image? Filtering, image processing, geometric transformation of images.

Text and reference books:

1. James D. Foley, Andeies van Dam, Stevan K. Feiner and Johb F. Hughes, Computer Graphics Principles and Practices, second edition, Addison Wesley, 2000.
2. Pradeep K Bhatia, Computer Graphics, 3rd edition, I K International Pub, New Delhi, 2013.
3. Donald Hearn and M. Pauline Baker, Computer Graphics 2nd Edition, PHI, 1999.
4. David F. Rogers, Procedural Elements for Computer Graphics Second Edition, T.M.H, 2001.
5. Alan Watt, Fundamentals of 3Dimensional Computer Graphics, Addison Wesley, 1999.
6. Corrign John, Computer Graphics: Secrets and Solutions, BPB, 1994.
7. Pilania & Mahendra, Graphics, GUI, Games & Multimedia Projects in C, Standard Pub., 2002.
8. N. Krishanmurthy, Introduction to Computer Graphics, T.M.H, 2002.


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Guru Jyotireshwar University
Science & Technology
HISAR-125001 (Haryana)

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MCA-45 IoT and Cloud Computing Lab.

General Course Information

Course Code: MCA-45 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Basic programming skills.

About the Course:

This lab. course on IoT and Cloud Computing helps students to learn how to use cloud services, implement virtualization and task scheduling, apply the vision of IoT and understand IoT in applied form.

Course Outcomes: By the end of the course students will be able to:

- CO1. **Analyse** the cloud computing setup with its vulnerabilities and applications using different architectures.
- CO2. **Design** different workflows according to requirements and apply map reduce programming model.
- CO3. **Identify** and propose applications which advance the IoT.
- CO4. **Develop** applications which advance the IoT.
- CO5. **Create** lab record for assignments that includes problem definitions, design of solutions and conclusions.
- CO6. **Demonstrate** use of ethical practices, self-learning and team spirit.

List of experiments/assignments:

1. Amazon Simple Storage Service (Amazon S3) and Amazon Glacier Storage
2. Amazon Elastic Compute Cloud (Amazon EC2) and Amazon Elastic Block Store
3. Amazon Virtual Private Cloud (Amazon VPC)
4. Elastic Load Balancing, Amazon CloudWatch, and Auto Scaling
5. AWS Identity and Access Management (IAM)
6. Databases and AWS
7. SQS, SWF, and SNS
8. Domain Name System (DNS) and Amazon Route 53
9. Amazon ElastiCache
10. Additional Key Services
11. Security on AWS
12. MQTT, REST/HTTP, CoAP, MySQL, apache for handling HTTP Requests, PHP & MySQL for data processing, MongoDB object type database
13. HTML, CSS & jQuery for UI designing, JSON lib for data processing, security & privacy during development, Working with arduino and intel galileo boards/Raspberry Pi

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**Jyoti Jambheshwar University of
Science & Technology
HISAN-123001 (Warananagar)**

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.


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Guru Jambheshwar University
Science & Technology
PILSANA-125001 (Haryana)

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MCA-46 Android Programming Lab.

General Course Information

Course Code: MCA-46 Course Credits: 2 Type: Professional Core Lab. Course Contact Hours: 2 hours/week Mode: Lab practice and assignments	Course Assessment Methods (internal: 30; external:70) The internal and external assessment is based on the level of participation in lab. sessions and the timely submission of lab experiments/assignments, the quality of solutions designed for the assignments, the performance in VIVA-VOCE, the quality of lab. file and ethical practices followed. The internal examination is conducted by the course coordinator. The external examination is conducted by external examiner (appointed by the Controller of Examination) in association with the internal examiner appointed by the Chairperson of the Department.
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Pre-requisites: Java Programming and Object-oriented programming, knowledge of XML, JSON and database concepts.

About the Course:

This lab. course on Android Programming helps students to learn how to develop android apps.

Course Outcomes: By the end of the course students will be able to:

- CO1. Analyse the Development Environment and the working of Emulator for android application.
- CO2. Design different activities and layouts of application.
- CO3. Identify and embed JSON and XML file in application design.
- CO4. Develop application based on SQLite and latest connection providers.
- CO5. Create lab record for assignments that includes problem definitions, design of solutions and conclusions.
- CO6. Demonstrate use of ethical practices, self-learning and team spirit.

List of experiments/assignments:

1. Setting up development environment, Dalvik Virtual Machine & .apk file extension, Fundamentals: a. Basic Building blocks - Activities, Services, Broadcast Receivers & Content providers b. UI Components – Views& notifications c. Components for communication -Intents & Intent Filters, AndroidAPI levels (versions & version names).
2. Emulator-Android Virtual Device, Launching emulator, Editing emulator settings, Emulator shortcuts, Logcat usage, Introduction to DDMS, Second App:- (switching between activities) Develop an app for demonstrating the communication between Intents.
3. Design a Basic of UI structure, Form widgets, Text Fields, Layouts, [dip, dp, sip, sp] versus px, Menu, Option menu, Context menu, Sub menu, menu from xml, menu via code.
4. Implementation of Intents (in detail), Explicit Intents, Implicit intents with Examples
5. Styles & Themes, styles.xml, drawable resources for shapes, gradients (selectors), style attribute in layout file, Applying themes via code and manifest file.
6. SQLite Programming, SQLite Open Helper, SQLite Database, Cursor, Reading and updating Contacts, Reading bookmarks.
7. Notifications, Broadcast Receivers, Services and notifications, Toast, Alarms.

Note:

The actual experiments/assignments will be designed by the course coordinator. One assignment should be designed to be done in groups of two or three students. The assignments must meet the objective of the course and the levels of the given course outcomes. The list of assignments and schedule of submission will be prepared by the course coordinator at the beginning of the semester.

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Guru Jambheshwar University of

Science & Technology

HISAR-125001 (Haryana)

463 1574

MCA-47 PROJECT WORK

General Course Information

Course Code: MCA-47 Course Credits: 6 Mode: Self learning under the guidance of a faculty member.	Course Assessment Methods (internal: 30; external: 70) Evaluation is done by the internal examiner (project guide) and external examiner appointed by Controller of Examination. The criteria for evaluation are given below. 1. Review of literature related to problem domain: 15 2. Significance and originality of the solution presented: 15 3. Application of software engineering principles and project management: 15 4. Significance and Scope of results: 20 5. Organization and presentation of major project report: 20 6. Level of Ethics and societal issues covered: 15
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About the Project Work:

Students start working on their project work in the beginning of fourth semester. Students do the background research for identifying appropriate problems, methodology and tools for their respective project works. They prepare a synopsis of the project work to be carried out. Each student is required to prepare a synopsis in the format provided and present it in front of a committee constituted by the Chairperson of the Department. Students can carry out projects in groups of two. In case of group project, the size of the problem should be significant, and members of the group must specify their individual contribution. After approval by the internal committee, they continue working on their project work throughout 4th semester. They carry out implementation of their respective projects based on the problem identified, methodology and tools suggested in the approved synopsis. They are required to complete their project work by the end of 4th semester. They prepare the final project reports according to the format provided. At the end of fourth semester, each student is required to present his/her project work in front of internal project guide and external examiner appointed by Controller of Examination.

Course Outcomes: After doing Project students will be able to:

- CO1. Evaluate critically the existing solutions and methodologies through reviewing literature.
- CO2. Plan the project according to principles of project management.
- CO3. Devise original solutions to complex problems using modern tools.
- CO4. Justify the outcomes of the project work.
- CO5. Organize and communicate (written and oral) ideas effectively.
- CO6. Develop solutions that meet ethical, societal and legal considerations.

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Guru Jambheshwar University
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HISAR-125001 (Haryana)

Department of Computer Science and Engineering
Guru Jambheshwar University of Science and Technology, Hisar-125001

Name of the Programme: _____ Semester: _____ Session: _____		Credits: 6 Total Marks: 100					
Evaluation of Project Work (MCA-47)							
SR. No.	Roll. No.	Review of literature related to problem domain CO1 (15)	Application of principles of software engineering and project management CO2 (15)	Significance and originality of the solution presented CO3 (15)	Significance and Scope of the Results CO4 (20)	Organisation and presentation of major project report CO5 (20)	Level of Ethics followed and societal issues covered CO6 (15)
1							
2							
3							
Name of the external examiner: Signature of the External Examiner: Date:		Name of the internal examiner: Signature of the internal Examiner: Date:					
Total Candidates:		No. of Candidates Present: No. of Candidates Absent:					

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Science & Technology
HISAR-125001 (Haryana)

Guidelines for preparing Project Work (Synopsis)

All the students are required to follow these guidelines for preparing their project synopsis.

General Guidelines

1. The student should follow ethical practices while doing the synopsis work. Any violation of ethical practices will lead to rejection of the synopsis. For instance, a plagiarized synopsis or a readymade synopsis purchased from market will be rejected straight away.
2. The synopsis must be submitted to the internal guide in soft binding at least 7 days before the presentation so that he/she can suggest changes.
3. Synopsis carried out in groups of two students must include the division of work.

Formatting Instructions

The formatting instructions are given in Table below.

Formatting Instructions		
Sr. No.	Item	Formatting
1.	No. of pages	Minimum 6 and maximum 10
2.	Paper size	A4
3.	Font Type	Times New Roman
4.	Normal text size	12
5.	Page numbering	Place: Centre Bottom
6.	Margins	Left margin: 3.75 cms (1.5 inch) Right, bottom, top= 2.5 cms (1 inch)
7.	References/Bibliography	IEEE format
8.	Binding	Soft binding of good quality

Contents of the Project Work (Synopsis)

The synopsis must be written in English. The ideas must be organized in a clear and concise fashion. Sections must be tentatively organized as below.

1. Contents Page
2. Introduction
3. Background Details and Literature Review
4. Problem Formulation and Objectives
5. Methodology and tools to be used
6. References/Bibliography

Signature

Name of Student

Registration Number

Department of Computer Science and Engineering

Guru Jambheshwar University of Science and Technology, Hisar

Signature

Supervisor

Designation

Department of Computer Science and Engineering

Guru Jambheshwar University of Science and Technology, Hisar

Format of Title Page

The format for the title page of the synopsis is given on the next page

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Guru Jambheshwar University of
Science & Technology
HISAR-125001 (Haryana)

TITLE OF THE PROJECT WORK (SYNOPSIS)

(Write in Times New Roman, 16-point size, Bold and Centred and Uppercase font)

*Project Work (synopsis) submitted to
Guru Jambheshwar University of Science and Technology, Hisar
for the partial award of the degree*

(Write in Times New Roman, 12-point size font, Bold, Italics and Centred style after 4 lines gap with 12 font size from the title of the project)

of

(Write in Times New Roman, 12-point size font, Bold, Italics and Centred style after 2 lines gap with 12 font size from the text above in three lines)

Master of Computer Applications

(Write in Times New Roman, 14-point size, Bold, Centred style after "of" after 2 lines gap with 12 font size)

by

(Write in Times New Roman 12-point size, Bold, Italics, and Centred style after the name of the degree with 2 lines gap with 12 font size)

**Your Name
(Enrolment Number)**

**Supervisor Name
Designation**

(Write in Times New Roman, 14-point size font, Bold, Centred style after 2 lines gap with 12 font from "by")



**Department of Computer Science & Engineering
GURU JAMBHESHWAR UNIVERSITY OF SCIENCE AND
TECHNOLOGY, HISAR**

Month, Year

(Write in Times New Roman, 14-point size font, Bold, Centred style, after 2 lines gap from logo)

Registrar

Guru Jambheshwar University of
Science & Technology
Hisar (Haryana)

Guidelines for preparing Project Work Report

All the students are required to follow these guidelines for preparing their final project report.

General Guidelines:

1. The title of the project must be same as that of the title in the synopsis submitted.
2. The report must include a declaration by the student that he/she has followed ethical practices while doing the project work. Any violation of ethical practices will lead to rejection of the report. For instance, a plagiarized report or a readymade report purchased from market will be rejected straight away.
3. Project works carried out in groups of two students must include the individual contribution of the students.
4. A CD of the project work should be included in closed pocket inside the back cover page. The CD must bear the name, registration number and title of the project.
5. The report must be submitted to the internal guide in soft binding at least 10 days before the final examination so that he/she can suggest changes before the report is presented to external examiner.

Formatting Instructions

The formatting instructions are given in Table below.

Formatting Instructions		
Sr. No.	Item	Formatting
1.	Front Cover	Dark Green and contents in golden ink
2.	No. of pages	Minimum 40 and maximum 70 excluding front material
3.	Paper size	A4
4.	Font Type	Times New Roman
5.	Chapter Heading Font	16
6.	Font of Sections and Subsections	14 and 12 in bold style
7.	Numbering style for sections and subsections; Do not use more than three levels.	2., 2.1 and 2.1.1
8.	Normal text size	12
9.	Figures and Tables must be numbered chapter-wise. Table headings on the top of the tables and Figure heading at the bottoms of the figures.	For example for chapter 2, Figures should be numbered as Fig. 2.1, Fig. 2.2 etc. and Tables as Table 2.1 and Table 2.2 etc.
10.	Page numbering	Place: Centre Bottom Type: Front material in Roman numbers Body of the report: in Arabic numerals. Pagination must start with first page of the first chapter and continue throughout the end of the report.
11.	Margins	Left margin: 3.75 cms (1.5 inch) Right, bottom, top= 2.5 cms (1 inch)
12.	References/Bibliography	IEEE format
13.	Binding	Hard binding of good quality

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Suru Jambheshwar University
Science & Technology
HISAR-125001 (Haryana)

Contents of the Project Report

The contents of the report should be organised as described below.

1. The first page in the report should be same as the cover page.
2. Declaration that the students has carried out his work on his own. It is his/her original creation, not plagiarised from any other source and due credit has been given to the source material used in the report through references and citations.
3. Acknowledgement
4. List of figures
5. List of Tables
6. List of Abbreviations
7. Contents

Abstract (in not more than 250 words)

This answers the question what have you done? How have you done and brief indication about the results.

8. Body of the Report

The report must be written in English. The ideas must be organised in a clear and concise fashion. Chapters must be tentatively organised as below.

Chapter 1. Introduction

This includes introduction to relevant area of project, problem formulation objectives of the project, and structure of the project report.

Chapter 2. Background Details and Literature Review

Chapter 3. Design or Framework of the project work

Methodology, Data Flow Diagrams, Entity Modelling etc.

Chapter 4. Discussion and Analysis of Results

Discussion and comparison of results.

Chapter 5. Conclusion and Future Scope

This includes relevance and scope of the project work, and its extensions.

References/Bibliography

9. Appendices


Declaration to be Submitted

The format of declaration to be included in the project report is given on next page.

Format of the Title Page

The format of the title page for the Project Work is given on the next to next page


Registrar

 **Guru Jambheshwar University of
Science & Technology
HISAR-125001 (Haryana)**

DECLARATION

I, *Your Name, Your Roll No.*, certify that the work contained in this project report is original and has been carried by me under the guidance of my supervisor. This work has not been submitted to any other institute for the award of any degree or diploma and I have followed the ethical practices and other guidelines provided by the Department of Computer Science and Engineering in preparing the report. Whenever I have used materials (data, theoretical analysis, figures, and text) from other sources, I have given due credit to them by citing them in the text of the report and giving their details in the references. Further, I have taken permission from the copyright owners of the sources, whenever necessary.

Signature

Name of Student

Registration Number

Department of Computer Science and Engineering

Guru Jambheshwar University of Science and Technology, Hisar


Signature

Supervisor

Designation

Department of Computer Science and Engineering

Guru Jambheshwar University of Science and Technology, Hisar


Registrar
Guru Jambheshwar University of
Science & Technology
HISAR-125001 (Haryana)

TITLE OF THE PROJECT REPORT

(Write in Times New Roman, 16-point size, Bold and Centred and Uppercase font)

*Project report submitted to
Guru Jambheshwar University of Science and Technology, Hisar
for the partial award of the degree*

(Write in Times New Roman, 12-point size font, Bold, Italics and Centred style after 4 lines gap with 12 font size from the title of the project)

of

(Write in Times New Roman, 12-point size font, Bold, Italics and Centred style after two lines gaps with 12 font size from the text above in three lines)

Master of Computer Applications

(Write in Times New Roman, 14-point size, Bold, Centred style after “of” after 2 line gaps with 12 font size)

by

(Write in Times New Roman 12-point size, Bold, Italics, and Centred style after the name of the degree with 2 lines gap with 12)

Your Name

Supervisor Name

(Enrolment Number)

Designation

(Write in Times New Roman, 14-point size font, Bold, Centred style after 2 lines gap with 12 font from “by”)



Department of Computer Science & Engineering

**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE AND
TECHNOLOGY, HISAR**

Month, Year

Registrar

**Guru Jambheshwar University of
Science & Technology
HISAR-125001 (Haryana)**

Duration of Programme:

Minimum duration of the MCA Programme is 2 years and maximum duration is 4 years.

1. A student who for whatever reasons is not able to complete the programme within the normal period or the minimum duration prescribed for the programming shall be allowed two years period beyond the normal period to clear the backlog to be qualified for the degree. The general formula, therefore, will be as follows:
 - a) Time span = $N+2$ years for the completion of programme. Where N stands for the normal or minimum duration prescribed for completion of the programme.
 - b) In exceptional circumstances a further extension of one more year may be granted. The exceptional circumstances be spelt out clearly by the relevant statutory body of the University.
 - c) During the extended period, the student shall be considered as a private candidate and also not be eligible for ranking.
2. Ordinarily, no student will be given time beyond the extended period of two years. However, in exceptional circumstances and on the basis of the merits of each case, University may allow a student one more year for completion of the programme.
3. Further, the mercy chance, if any will be given within maximum allowed period of the programme as per UGC guidelines. In normal circumstances, only two chances will be given to pass re -appear examination.

Faculty and Support Staff:

The Directorate of Distance Education (DDE) of the university is headed by the director who is a full-time faculty member (Professor) of the university appointed by Vice-Chancellor to facilitate the development, implementation and monitoring the programmes offered at DDE and to attend all administrative matters concerned with the activities of directorate. In addition, there is one full time faculty member of Directorate of Distance Education who is holding the position of Deputy Director. The supporting staff such as one Deputy Registrar, one Assistant Director, one Superintendent, two Deputy Superintendent, one Hindi Officer, Six Assistants and other clerical staff are coordinating the activities of Directorate of Distance Education (DDE) and looks after the problems of the distance students. The Supporting staff looks after the problems of the students through on-line admission help line, examination related work, study material delivery, grievance redressal and so on. The DDE is assisted by the IT CELL for the online uploading and evaluation of assignments and other student support activities. The DDE also assisted by Pt. Deendayal Upadhyaya Computer and Informatics Centre (PDUCIC) department for communicating important information to the distance student through Distance website of Guru Jambheshwar University of Science and Technology, Hisar. The PDUCIC department managed the Distance Website of the University. There are three faculties of computer science in Directorate of Distance Education who are looking after the programme as course coordinator.

Faculty:

The Directorate of Distance Education (DDE) have qualified teaching faculty to look after the programme as a course coordinator. They look for the following activities related to the distance education:

- Conducting Personal Contact Programme (PCP) classes for the Distance students.
- Assisting in the change of Regulations and Curriculum, admission work, counselling new students and other issues such as break of study, exemptions etc.
- Coordinating with all Study Centers to maintain academic activities.

Registrar

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- Coordinating for the preparation of study materials for all semesters/year.

Instructional Delivery Mechanism:

The Instructional system of the University comprises four components, viz, Self-Learning Material (SLM), Personal Contact Programme, Internal Assessments and End Term Examination.

- **Self-Learning Material (SLM)** – The success and effectiveness of distance education systems largely depends on the study materials so it is necessary that the study material (SLM) must be ideal for easy and better understanding in self-learning mode. Learning Material through Print media named self-learning Material (SLM) is developed with the approach of self-explanatory, self-contained, self-motivating and self-evacuating followed by the UGC guidelines.
- **Personal Contact Programme** – PCP sessions guide the learners as the programme proceeds. The date and venue for the PCP will be communicated to the learners through our website or SMS Service. During PCP, the learner gets guidance for better understanding of the programme and subject. The Personal Contact Programme (PCP) of 15 days duration for annual programme and 10 days duration for semester programme will be arranged for each of the course by the respective Course Coordinator at the University campus. The learners can get their doubts cleared with the help of subject experts so as to improve their self-learning capability. Learners are required to attend PCP sessions for all their respective subjects.
- **Internal Assessments**- Distance education learners have to depend much on self-study. In order to ascertain the writing skill and level of comprehension of the learner, assignment work is compulsory for all learners. The Directorate of Distance Education (DDE) of this university has an online portal for the uploading of the assignments and same has been evaluated online by the subject expert. Two assignments of 30 marks i.e. 10 marks each shall be allotted for each subject consists of questions with practical based. The assignment question papers will be uploaded to the website within a scheduled time and the learners shall be required to respond them within a specified period of time. The response of the learner is examined by a faculty member.
- **End Term Examination**- At the end of every session learners will give theory exam for 70 marks for each subject. For examination, there will be of nine questions. The first question will be compulsory consisting of seven short questions of two marks each covering the entire syllabus (all four Units). In addition, eight more questions of 14marks each will be set comprising from the entire syllabus and the students are required to attempt any four questions from these.

Student Support Services:

The distance department of the university provides the Student Support Services through online mode. Following are the main student support services provided by university through online mode:

- On line Admission Portal
- On line fee portal for students
- SMS alert facility for the students for information related to start of PCPs and term-end examinations, last date of submission of assignments, Project Deadlines and Viva-voce etc.
- Student Support Service is provided through online mode and grievance handling mechanism is adopted with the help of supporting technical staff
- On line-availability of Synopsis/Research Project Guidelines
- Research Project Based Assessment

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- Online availability of Old Question Papers
- Comprehensive viva-voce is conducted after Term End examination in the University
- Student Help Desk

Procedure for admission, curriculum transaction and evaluation:

Admission Procedure:

All the admissions are made online by filling Online Admission Form. The procedure of filling the online application form is a four multi step procedure, which is mentioned below:

- **Candidate Registration:** Click the registration form and fill the necessary details like: Name of Candidate, Father's Name, Date of Birth, Category, Name of Programme etc.
- **Payment Option:** Registered candidate may deposit fee by any of the following modes of payment:
 - a. Net Banking
 - b. Debit Card
 - c. Credit Card
- **Filling of Application Form:** After Registration and depositing of fee, registered candidate may fill the complete application form with all the fields given in the form.
- **Uploading Documents:** In final step, the following scanned documents (all documents /image/signature should be in "jpg", "gif", "bmp", "jpeg" (format only) are to be uploaded:
 - a. 10th Mark Sheet (for the purpose of proof of Name of candidate, Date of Birth, Father's and Mother's Name etc.) not greater than 500kb.
 - b. 12th Mark Sheet not greater than 500kb.
 - c. Mark sheet of qualifying exam along with degree of lower examination, if any, not greater than 500kb.
 - d. Photograph of candidate (should not be greater than 75kb) and Maximum size (Width 132px Height 170px) Minimum Size (Width 102px Height 140px).
 - e. Signature of candidate (should not be greater than 50kb) and Maximum size (Width 210px Height 80px) Minimum Size (Width 150px Height 50px).
 - f. Proof of fee concession, if applicable not greater than 500kb.
 - g. Caste Certificate, if applicable, not greater than 500kb.
- **Generating Preview:** After uploading the document, a preview of the complete application will be generated. If necessary, academic information can be edited before locking.
- **Lock form to generate enrolment no. And admission letter:** Finally, the application form is locked to generate enrolment No. and admission letter.

It is mandatory for every candidate to lock the form. If a candidate fails to lock the form, it will be assumed that he/she is not interested in taking the admission and his/her candidature will be automatically stands cancelled and 50% of the fees paid will be refunded to him/her.

Note: For entrance test, a separate registration portal with registration form with choice of examination center available on the website. For appearing in the entrance test, the candidate will have to pay registration fee of Rs. 1000/- only. After qualifying the respective entrance test, the candidate can proceed to make the payment of fee, filling of application form, uploading of required documents and locking of form.

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Eligibility and Fee Structure:

Sr. No.	Title of Programme	Eligibility	*1 st Sem Fee	2nd Sem Fee	*3 rd Sem Fee	4 th Sem Fee
1.	Master of Computer Applications (MCA)	Passed BCA/ Bachelor Degree in Computer Science Engineering or equivalent Degree. OR Passed B.Sc./ B.Com./ B.A. with Mathematics at 10+2 Level or at Graduation Level (with additional bridge Courses as per the norms of the concerned University). Obtained at least 50% marks (47.5% for SC candidates of Haryana) in the qualifying Examination. Note: Candidates having passed Mathematics/ Statistics in one semester/ in one year as the case may be shall be considered eligible for MCA.	Rs.10250/-	Rs.7750/-	Rs.10250/-	Rs.7750/-


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Curriculum Transaction:

The Directorate will supply study material in the form of Self-Learning Mode (SLM) printed book/lessons as well as available on the website of Distance Education. The students will get the same directly from the Directorate either by-hand or will be sent by post/courier service. The Personal Contact Programme (PCP) of 15 days duration for annual programme and 10 days duration for semester programme will be arranged for each of the course by the respective Course Coordinator at the University campus. Theory/Practical teaching as per requirements will be provided to the students by the subject specialists. The PCPs will be held as per the schedule given in the prospectus. In addition to these students are informed through Distance Education website and SMS as well. However, the students are advised to report to the concerned Course Coordinator for PCP at the contact given therein.

Evaluation:

Internal assessment is based on practical assignments and the evaluation is done by experts in relevant field. External term end evaluation is done by experts in relevant field.

Last Date of online submission of Internal Assignments:

Semester/ Annual	Without late fees	With late fee of Rs.500/-	With late fee of Rs.1000/-
Odd	15 th January	31 st January	15 th February
Even	30 th April	31 st May	15 th June
Annual	30 th April	31 st May	15 th June

NOTE: The students have to upload two internal handwritten assignment of each theory paper of 30% weightage in the stipulated time period mentioned above. Assignments to be prepared by the students will be available on the website dde.gjust.ac.in. It is the sole responsibility of the student to download the question paper of the assignment and upload the solved assignments online as per above mentioned schedule. If the student will upload the assignments after the above stipulated schedule then the assignments will not be accepted and the student will be treated as ABSENT in internal marks. However, such students may be allowed to submit their assignment with a fine of Rs.2000/- as per schedule given below (for the students admitted/promoted in current session only):

Semester/Annual	With late fees of Rs. 2000/-
Odd	28 th / 29 th February
Even	30 th June
Annual	30 th June

If a student fails to submit his/her assignments after the above said last date with fine of Rs. 2000/- then he/she will have to secure passing marks in his/her respective theory examinations. No request for re-evaluation of internal assignment will be considered.

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Requirement of the laboratory support and Library Resources:

Laboratory Support:

A well-equipped Computer lab with latest version of MS Office and internet facility is also available in the department of Directorate of Distance Education (DDE) of this university. This Computer Lab is established with an aim to meet the computing requirements of all the Distance learners of the University. This lab is equipped with 12 desktop computers of latest configuration i.e. Window 7, Window 10 and I3 processor. In addition to this, there is one printer, one scanner and one LED in the Computer Lab for teaching through presentation and video lectures to students. There is one lab attendant for handling the queries regarding online admission, fee payment, uploading of assignments, any other queries through mail, etc.

Library Resources:

The infrastructure related to library resources is available in the present set-up of the university whereby, we have a well stacked library with latest books, journals, magazines and newspapers. It is named after the great Indian Jurist, Economist, Politician and Social Reformer Dr. Bhim Rao Ambedkar. The seating capacity of the University Library is 400 seats. By the end of December 2018, the Library has a collection of 106566 books. The Library in its electronic repository has the access to 7000+ e-journals from 14 publishers and 5 Databases. Moreover, 2149 e-books of national and international reputed publishers have also been added in e-repository to enrich the students. University library provides different services to distance learners such as Air-Conditioned Reading Halls, Reading Facility for 400 students, Laptop Lab for SC/ST students consisting of 20 Laptops with internet facility and Potable Water facility on every floor. The online e-library resources namely INFLIBNET is also available for the accessibility of books and journals.

Cost estimate of the programme and the provisions:

Cost estimated of programme is based on following components:

- Study Material development and delivery such as cost of writing, vetting, editing, SLM conversion, printing and despatch etc. remuneration rates are attached
- PCP and related activities remuneration rates are attached
- Examination and evaluation related activities remuneration rates attached
- Internal assessment including assignment preparation and evaluation
- Miscellaneous cost like advertising on FM radio broadcast, newspapers and SMS alert
- Salary to Teaching and Non-Teaching Staff

Special Provisions:

- The Scheduled Caste students of Haryana whose family income from all sources is up to Rs. 2.5 Lacs per annum as prescribed by the State Govt. for Post Matric Scholarship and who produces, at the time of admission, the "Caste" and "Income" certificates issued by the competent authority, are not required to pay any kind of fees and they may pay a sum of Rs.1000/- (Refundable) as security/caution money at the time of admission. The eligible SC students will submit the Post Matric Scholarship forms at the time of admission/fee deposition. The hard copy of the filled post matric scholarship form is to be


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submitted within the stipulated time in the office of the Directorate of Distance Education failing which the candidate will not be allowed to appear in the examination. In case the student does not apply for scholarship or is found ineligible for award of scholarship or being eligible he/she is not awarded scholarship due to one or other reason, he/she will be liable to pay full fee along with late fine @ Rs. 10/- per day.

- The fee concession on the pattern of Guru Jambheshwar University of Science & Technology employees will also be extended to the employees of the office of the Directorate of Technical Education Haryana posted in the Head Office at Panchkula and the Audit staff posted in Guru Jambheshwar University of Science & Technology, Hisar for pursuing studies in all the courses being run by the University. However, the Audit Staff will be entitled to avail such facility up to the period till they remain posted in Guru Jambheshwar University of Science & Technology, Hisar.
- The students must remit the fee of subsequent semesters/installments as per the schedule without waiting for the result so as to enable the Directorate to supply the study material in time.
- In case of sudden demise of any student during study the fees paid by him/her for the session of demise will be refunded, if claimed by parents
- 25% concession of the total fees to serving/ retired military personal upto the rank of N.C.O. or of military personal killed or incapacitated wholly or partially during the war and their wards, will be allowed.

Quality assurance mechanism and expected programme outcomes

Quality assurance mechanism:

Quality Policy of University:

The Guru Jambheshwar University of Science & Technology (GJUST) is committed to achieve excellence in teaching, research, and extension by follow and implement following points of quality policy:

- Imparting globally competitive education
- Selecting and retaining competent and motivating faculty
- Providing state of the art infrastructural resources
- Promoting quality research culture
- Ensuring transparent and accountable governance
- Focusing on holistic development of learners
- Symbiotic relationship with industry, other academic institutions, and society
- Striving for financial self-reliance

Advisory Committee:

The following Advisory Committee has been constituted for smooth functioning and monitoring of academic activities of Directorate of Distance Education:

- | | |
|---|----------|
| 1. Vice-Chancellor, GJUS&T, Hisar | Chairman |
| 2. Registrar, GJUS&T, Hisar | Member |
| 3. Dean. of Colleges, GJUS&T, Hisar | Member |
| 4. Dean, Academic Affair, GJUS&T, Hisar | Member |
| 5. Director, Distance Education, Kurukshetra University | Member |

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HISAR-125001 (Haryana)

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6. Director, Distance Education, GJUS&T, Hisar	Member
7. Director, HSB, GJUS&T, Hisar	Member
8. Chairman, Deptt. of CSE, GJUS&T, Hisar	Member
9. Chairman, Deptt. of CM&T, GJUS&T, Hisar	Member
10. Chairman, Deptt. of Mathematics, GJUS&T, Hisar	Member
11. Prof. H. Bansal, HSB, GJUS&T, Hisar	Member
12. Prof. Saroj, Deptt. of CSE, GJUS&T, Hisar	Member
13. Prof. Manoj Dayal, Deptt. of CM&T, GJUS&T, Hisar	Member
14. Director, UCIC, GJUS&T, Hisar	Member
15. All Course Co-ordinators, DE, GJUS&T, Hisar	Members

Centre for Internal Quality Insurance (CIQA):

The CIQA also oversees the development and preparation of SLMs, and then it is submitted to the Board of Studies concerned for the approval. The objective of establishment of Centre for Internal Quality Assurance (CIQA) is to develop and put in place a comprehensive and dynamic internal quality assurance system to provide high quality programmes of higher education in the Open and Distance Learning mode.

Composition of CIQA

1. Vice Chancellor, GJUS&T	Chairperson
2. Registrar, GJUS&T	Member
3. Dean of Colleges, GJUS&T	Member
4. Controller of Examination	Member
5. Director, HSB, GJUS&T	Member
6. Chairperson, Deptt. of CMT, GJUS&T	Member
7. Chairperson, Deptt. of Mathematics, GJUS&T	Member
8. Prof. Pardeep Kumar, Director (DE), KUK	Member
9. Prof. Saroj, Deptt. of CSE, GJUS&T	Member
10. Prof. R. Baskar, IGNOU, Delhi	Member
11. Prof. Suresh Mittal, HSB, GJUS&T	Member
12. Director, PDUCIC, GJUS&T	Member
13. Dy. Registrar (DE), GJUS&T	Member
14. DR/ AR (Accounts), GJUS&T	Member
15. DR/ AR (Academic), GJUS&T	Member

16. Director, Distance Education/CIQA	Member Secretary
17. Sh. Vinod Goyal, Assistant Prof. DDE, GJUS&T	Member
18. Dr. Sunaina, Assistant Prof. DDE, GJUS&T	Member
19. Dr. Vizender Sihag, Assistant Prof. DDE, GJUS&T	Member

Function of Internal Quality Assurance (CIQA):

Following are the main functions of CIQA:

- To maintain quality in the services provided to the learners.
- To ensure continuous improvement in the entire operations of the Higher Education Institution.
- To identify the key areas in which the Higher Education Institution should maintain quality.
- To disseminate information on quality assurance.
- To device mechanisms for interaction and obtaining feedback from various Departments or Centres or Schools in the Higher Education Institution.
- To suggest to the authorities of the Higher Education Institution, measures for qualitative improvement.
- To ensure the implementation of its recommendations through regular monitoring.
- To ensure participation of all stake holders namely, learners, teachers, staff, parents, society, employers and Government in Quality Improvement Process.
- To prepare Programme Project Report and ensure another launch of programme(s).
- Collection, collation and dissemination of accurate, complete and reliable statistics about the quality of the programme(s).

Activities of Centre for Internal Quality Assurance (CIQA):

Following are the main activities of CIQA:

- Prepare a Programme Project Report (PPR) for each programme according to the norms and guidelines prescribed by the Commission and wherever necessary by the appropriate regulatory authority having control over the programme;
- Get the Programme Project Report (PPR) approved by the appropriate authority of the Higher Educational Institution and the Commission before launch of the programme;
- Oversee the development of Study Learning Material (SLM), integration of Information and Communication Technology (ICT), setting up of Learning Centres and coordination with the parent institution and relevant Regulatory authorities;
- Put in place monitoring mechanism to ensure the proper implementation of Programme Project Reports (PPRs);
- Design annual plans for quality level enhancement at the level of the Higher Educational Institution and ensure their implementation;
- Arrange for feedback responses from students, employers and other stakeholders for quality related institutional processes;
- Develop quality benchmarks or parameters for the various academic and administrative activities of the Higher Educational Institution;
- Obtain information from other Higher Educational Institutions on various quality benchmarks or parameters and best practices;

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- Organise workshops or seminars on quality related themes and Higher Educational Institution wise dissemination of the proceedings of such activities;
 - Suggest restructuring of programmes in order to make them relevant to the job market;
 - Develop and implement innovative practices in major areas leading to quality enhancement in services to the learners;
 - Create learner centric environment rather than institution centric environment;
 - Adopt measures to ensure internalisation and institutionalisation of quality enhancement practices through periodic accreditation and audit;
 - Conduct or encourage system-based research to bring about qualitative change in the entire system;
 - Coordinate between the Higher Educational Institution and the Commission for various quality related issues or guidelines;
 - Record activities undertaken on quality assurance in the form of an annual report; and
 - To coordinate recognition and accreditation of the Higher Educational Institution.

Expected Programme Outcomes:

POs for MCA Programme:

POs are defined by the institution in alignment with the following graduate attributes prescribed by the NBA:

PO1: Apply knowledge of Computing fundamentals, Computing specialization, Mathematics, and domain knowledge appropriate for the computing specialization to the abstraction and conceptualization of computing models from defined problems and requirements.

PO2: Identify, formulate, research literature, and solve complex Computing problems reaching substantiated conclusions using fundamental principles of Mathematics, Computing sciences, and relevant domain disciplines.

PO3: Design and evaluate solutions for complex computing problems, and design and evaluate systems, components, or processes that meet specified needs with appropriate consideration for public health and safety, cultural, societal, and environmental considerations.

PO4: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of information to provide valid conclusions.

PO5: Create, select, adapt and apply appropriate techniques, resources, and modern computing tools to complex computing activities, with an understanding of the limitations.

PO6: Understand and commit to professional ethics and cyber regulations, responsibilities, and norms of professional computing practice.

PO7: Recognize the need, and have the ability, to engage in independent learning for continual development as a Computing professional.

PO8: Demonstrate knowledge and understanding of computing and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

PO9: Communicate effectively with the computing community, and with society at large, about complex computing activities by being able to comprehend and write effective reports, design documentation, make effective presentations, and give and understand clear instructions.

PO10: Understand and assess societal, environmental, health, safety, legal, and cultural issues within local and global contexts, and the consequential responsibilities relevant to professional computing practice.

PO11: Function effectively as an individual and as a member or leader in diverse teams and in multidisciplinary environments.

PO12: Identify a timely opportunity and using innovation to pursue that opportunity to create value and wealth for the betterment of the individual and society at large.

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SAMPLE
SELF-LEARNING MATERIAL (SLM)
FOR
MASTER OF COMPUTER APPLICATION (MCA)
(Through Open Distance Learning)



Directorate of Distance Education,
Guru Jambheshwar University of Science & Technology,
Hisar, Haryana

(Established by State Legislature Act 17 of 1995 & Recognised by UGC Act 1956 u/s 12-B & 2 (F)
(‘A+’ GRADE NAAC ACCREDITED)

20/4/23
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Science & Technology
HISAR-125001 (Haryana)

SUBJECT: CYBER SECURITY	
COURSE CODE: MCA-34	AUTHOR: ER VINOD
CHAPTER NO. 1	
NETWORK SECURITY CONCEPTS	

STRUCTURE

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1.0 Learning Objective

To understand the concept of network and its types, network characteristics, security types, services provided by network security and various devices used in network security.

1.1 Introduction to Network

Before we study Network and Security concepts, we should also know about network definition, types of networks and what are the security threats measurements and how to protect our data and information on a network. Without knowing the basics of networking, it will be difficult to understand the security methods and concepts.

Two or more computers that are connected to each other to share resources, transfer files, or communicate electronically make up a network. Cables, telephone lines, radio waves, satellites, or infrared light beams can connect computers in a network. A network is a collection of servers, networking devices, and computer systems connected to each other to share resources like a printer or file server computer. Wireless or cable media can be used to establish connections.

1.2 Network Types

A group of computers connected to each other to communicate and to share their resources, data, and applications is called Computer Network. Computer networks can be used for the following purposes:

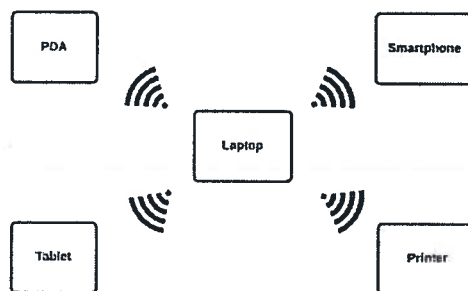
- To communicate using instant messaging, email, audio, video etc.
- To share resource devices such as scanners, printers and even hard disks etc.
- To share data or files
- To share applications or programs and software on remotely on computer systems.
- To allow maintaining information easily and accessing by network users.

Networks of Computer:

- PAN - Personal Area Network
- LAN - Local Area Network
- MAN - Metropolitan Area Network
- WAN - Wide Area Network
- VPN - Virtual Private Network

1.2.1 PAN - Personal Area Network:

One of the most common computer network type is PAN (Personal Area Network). This network can be controlled by a single person. An individual can do communication between the computer devices in work space which is centered. PAN provides network area of 10 meters from source to destination device.

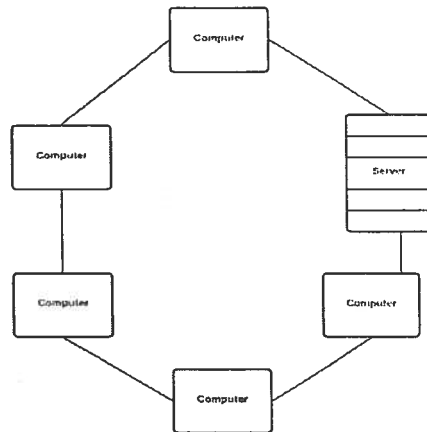


(fig. 1.1)

USB, computer, mobile, Tablet, printer, PDA etc. are few examples of PAN.

1.2.2 LAN - Local Area Network:

A network that links computers all together via a common communication line within a local limited area is called LAN (Local Area Network). A LAN consists of at least two or more than two computers linked to one server. Ethernet and Wi-Fi are two communication methods used in this type network.

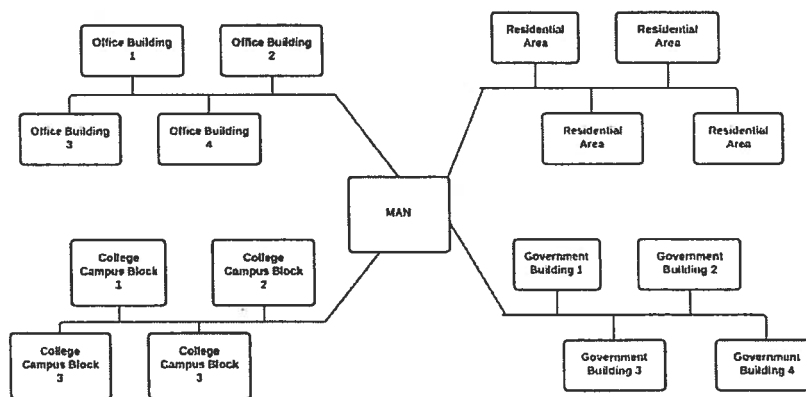


(fig. 1.2)

Most networks used in any home, office, school, college, library, laboratory, etc. are few examples of LAN.

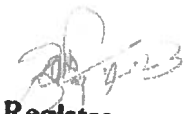
1.2.3 MAN - Metropolitan Area Network:

MAN (Metropolitan Area Network) is a network bigger than LAN (Local Area Network), but smaller than WAN (Wide Network Area). In this network type all the computers are connected in a geographical distance via shared lines for communication within any town, a city, or any metropolitan area.



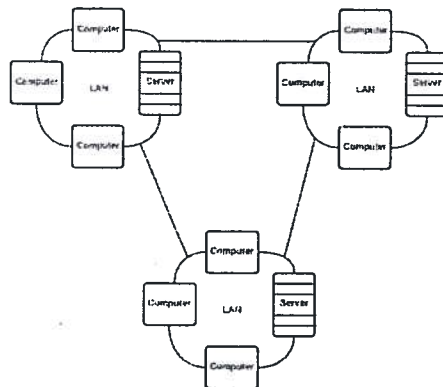
(fig. 1.3)

Examples of MAN Network are all such networks which are spread among large area within multiple buildings, cities, towns or a single large city.


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1.2.4 WAN - Wide Area Network:

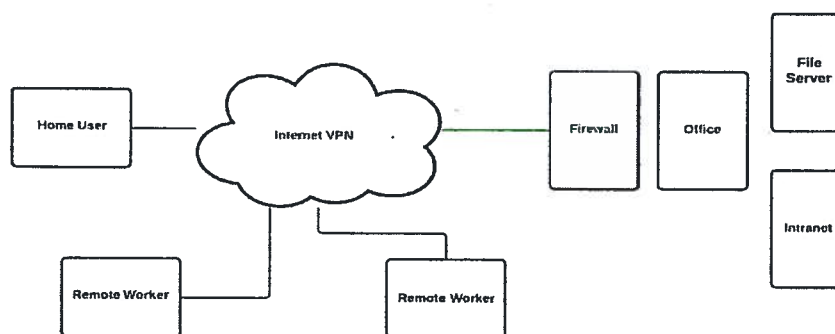
A network of computer that links computers in distance of a large geographical area using shared communicating line is called WAN (Wide Area Network). WAN is also called a huge network of many networks of local area that is used for communication to each other. The very commonly used WAN network is INTERNET.



(fig. 1.4)

1.2.5 VPN - Virtual Private Network:

A network of computers that widens across the internet and constitutes a private network is called VAN (Virtual Private Network). It provides facility to send or receive data to the user like they are linked in real, while in reality they are not linked, but seems to constitute a private network via a connection that is virtual and point to point. Such type of networks helps in prevention of malicious sources as the connection make use of encrypted one so as to ensure that sensitive data is securely transmitted over VPN.



(fig. 1.5)

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1.3 Computer Network Characteristics

- **Fault Tolerance:** It means, a network has the ability to work continuously even if the failures occur, and ensure no loss of services to web server by finding alternate connection with another connection as a substitute.
- **Scalability:** It means, a network has the ability to extend with the needs, and continue performing good performance. The Internet itself is the example of scalability.
- **Quality of Service (QoS):** It means, a network is able to set priorities, reduce data loss, delay and manage data traffic etc.
- **Security:** Security means a network is able to protect our network from unauthorized access, forgery or misuse. Also it can provide integrity, confidentiality and availability.

1.4 About Network Security

Network Security is known as a methods used for precautions and for protecting Computer network structure from leaking private data, misuse, failure, alteration, destruction and unauthorized access. It is a process to secure networks from possible security threats. Network security allows registered users use networks, while on the other hand, it protects from malicious actors from misusing threats and exploits the system. As hackers are exponentially growing in numbers and day by day upgrading themselves with smarter techniques, world definitely need network security tools to prevent network from numbers of hackers who are growing and getting smarter by each passing day.

A technique used by any organization to ensure the security of organization's assets besides all traffic and data transferring in network is known as Network Security. It protects both software and hardware of a system. Network security protects and monitors network usage by detecting and preventing many of threats exploiting or using the network. Network security is necessary and essential these days while doing transactions and communication within the individuals, businesses and for government. Because of the frequency and different types of attacks or possible disruptive attacks in the future, Network security has become a key for security essentials. By using network security measures, users, computer systems and programs operate their tasks in a network by using authorized critical functions safely. Network security is a multilayered approach which can be defined at the data link layer, network layer and application layer.

1.5 Types of Network Security

In an enterprise, network security has several levels. Attackers can attack at any layer of the network model, so it is important to protect your system hardware, software, and policies by configuring network security. Types of network security are described below.

1.5.1 Physical Network Security:

There are so many types of attacks on physical devices as devices have become more compact and easy to breach. Physical network security is essential to safeguard private data and information from stealing, unauthorized access or sometimes computer hardware theft.

1.5.2 Technical Network Security:

We can protect confidential data on the network either in inbound or outbound by using technical network security. It is important to stop unauthorized access of data and systems as well as malicious activities done by employees.

1.5.3 Administrative Network Security:

Network security that controls organizational-level security policies by governing user actions like authentication, level of access, and execution of infrastructure changes by IT staff is called Administrative network security.

1.5.4 Access Control Security:

It is a technique of improving organizational private network security by controlling network resources from source to destination devices which follows security policies. Two components of a standard network access control scheme are given below:

- **Restricted access:** Restricted access is a process of allowing or refusing access permissions to protect resource. It is also known as authorization.
- **Network Boundary Protection:** It controls logical communication to and from networks. Many firewalls can be used to protect network infrastructure. Besides it, intrusion detection & prevention tools are used for network boundary protection.

1.5.5 Application Security:

The method of detecting, identifying, repairing and improving software is called application security. As many hackers are trying to hack applications with different type of attacks. So, many application security methods are developed to protect application data from

locking down coding, assessing coding, evaluating encryption tools, monitoring permissions and access rights. Besides, a lot of advance methods designed for security of web based applications, smart phone based apps, network-based apps and firewalls.

1.5.6 Firewalls Security:

A network security system which checks and controls incoming and outgoing traffic of a network, allowing or stopping data packets within security rules is known as Firewall. It creates a firewall between internal network and traffic coming from other internet sources to protect network from malicious codes, viruses and hackers. The main significance of a firewall is to stop dangerous traffic access and only allowing non-threatening traffic to pass through.

1.5.7 Virtual Private Networks (VPN):

An encrypted connection which connects a computer and a network over the internet is known as VPN (Virtual Private Network). It helps to secure transmission of sensitive data. It protects network from unwanted data on the traffic and allow users to operate remotely. VPN technology is usually used in corporate networks.

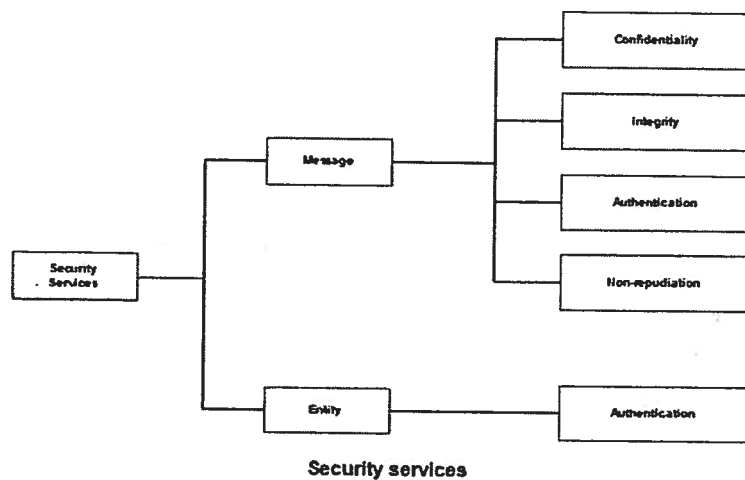
1.5.8 Wireless Security:

Wireless security mainly prevents unauthorized and malicious access to or from a wireless network. It is provided by wireless devices such as a wireless router or switch that encrypts and protects all communication by default in wireless environment. Two common standards for ensuring wireless network security are Wired Equivalent Policy (WEP) and Wireless Protected Access (WPA).

1.6 Services provided by Network Security

Services which are provided by a network security are given below:

1. Message confidentiality
2. Message Integrity
3. Message Authentication
4. Message non-reproduction
5. Entity Authentication



(fig. 1.6)

1.6.1 Message confidentiality

- This indicates that the message that is sent over the network should be private, i.e. only the recipient in the network can access it.
- Priority is to send the message to the intended recipient only, and also to make ensure that contents should be read by him only; for tis the message is encrypted to prevent any unauthorized access.

1.6.2 Message Integrity

- This indicates that the data or message should arrive at its destination unaltered and exactly where it was sent.
- During transmission, the data should not be altered maliciously or accidentally.
- A checksum is added to a message to guarantee its integrity.
- The purpose of an algorithm is to guarantee that neither the message nor the checksum can be altered.

1.6.3 Message Authentication

- First of all, the receiver confirms of sender's identity i.e. Receiver checks whether actual sender is the same, who was supposed to send the message.

There are different methods to identify senders:

1. A common secret code is used so that both parties can confirm their identity while transferring and authenticating any message.
2. A Digital signature is sent to confirm authentication.
3. A digital certificate is issued by a recognized certification authority who verifies the authenticity.

1.6.4 Message non-reproduction


- It means that a sender must not be able to deny sending a message which was already sent.
- The receiver must prove the ownership that the sender sent same contents of the message.
- Authentication and integrity mechanisms are used for non-reproduction.

1.6.5 Entity Authentication

- The entity or user is verified before accessing any system resources that's called entity authentication or user identification.

IAAA Standard:

- The assertion of a user's name or identity, such as an email address or user ID, is called identification.
- Authentication is a process of confirming user's originality. This is done with many layer passwords.
- Giving some permissions to user or not is called authorization. The user may be granted read, write, full control, etc., or they may not be authorized and have no permissions.
- Keeping track of what happened is accountability. User attempted or gained access is recorded in the log. Additionally, the user's actions may be recorded in the log.


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1.7 Network Security Devices

1.7.1 Active Devices: The extra traffic is blocked by these security devices. Examples of such devices are firewalls, antivirus scanning devices and content filtering devices.

1.7.2 Passive Devices: The unwanted traffic is identified and reported by these devices. Example of these devices is intrusion detection systems.


1.7.3 Preventative Devices: The suspicious network activities and potential security threats are identified by scanning through these devices. Penetration testing devices and vulnerability assessment appliances are examples of such devices.

1.7.4 Unified Threat Management (UTM): All-in-one security devices are served by these devices. Firewalls, content filtering, web caching are few examples of these devices.


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1.8 Check Your Progress

1. A network includes two or more computers that are connected or linked to _____ resources.
2. WAN means _____ and VPN means _____.
3. The example of WAN most commonly used is the _____.
4. A network of computer that widens across the internet a private network is called _____.
5. Access Control is broken into IAAA – What's the full form of IAAA?
_____.
6. QoS means _____.
7. Message Authentication is one of the services of _____.
8. _____ Network can be controlled by a single person, it means, an individual can do communication between the computer devices in work space which is centered.
9. A network larger than LAN (Local Area Network) but smaller than WAN (Wide Network Area) is called _____.
10. _____ is a security system network that checks or controls incoming and outgoing traffic of a network, on basis of security rules allow or disallow data packets.


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1.9 Summary

Two or more computers that are connected to each other to share resources (like hard drives, printers, and CDs), transfer files, or communicate electronically make up a network. Cables, telephone lines, radio waves, satellites, or infrared light beams connect computers in a network. An organization is a gathering of PC frameworks, framework servers, gadgets for systems administration connected together to share assets including a hard circle or printer or record server PCs. These cable and wireless media can be used to make connections.

Computer Networks:

- Personal Area Network (PAN)
- Local Area Network (LAN)
- Metropolitan Area Network (MAN)
- Wide Area Network (WAN)
- Virtual Private Network (VPN)


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Computer Network Characteristics:

- Fault Tolerance
- Scalability
- Quality of Service(QoS)
- Security

About Network Security:

It is known as a methods used for precautions and to protect Computer network structure from leaking private data, misuse, failure, alteration, destruction and unauthorized access. It is a process to secure networks from security threats possibly; Network security allows only registered users to use networks, while on the other hand, it protects networks from malicious actors from misusing threats and exploits. As there is growth in the number of hackers and day to day they are getting upgraded, we definitely require security tools for network to prevent network from numbers of hackers who are growing and getting smarter daily.

Types of Network Security

- Physical Network Security
- Technical Network Security
- Administrative Network Security
- Access Control Security
- Application Security
- Firewalls Security
- Virtual Private Networks (VPN)
- Wireless Security

Services of Network Security

Services which are provided by a network security are given below:

1. Confidentiality of Message

2. Integrity of Message
3. Authentication of Message
4. Non-reproduction of Message
5. Authentication of Entity

Network Security Devices

- Active Devices
- Passive Devices
- Preventative Devices
- Unified Threat Management (UTM)

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1.10 Keywords

- Personal Area Network (PAN)
- Local Area Network (LAN)
- Wide Area Network (WAN)
- Metropolitan Area Network (MAN)
- Virtual Private Network (VPN)
- Network Security
- Firewalls Security
- Wireless Security
- Message confidentiality
- Message Integrity
- Message Authentication
- Message non-reproduction
- IAAA - Identification , Authentication, Authorization, Accountability
- Encryption
- Unified Threat Management (UTM)

1.11 Self Assessment Test

1. What is a computer network? Describe types and characteristics of network?
2. Differentiate between LAN, MAN and WAN.
3. What do you mean by network security? Explain types and services of network security.
4. Describe VPN (Virtual Private Network).
5. What are the types of network security devices?

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1.12 Answers to Check Your Progress

1. share
2. Wireless Area Network, Virtual Private Network
3. Internet
4. VPN (Virtual Area Network)
5. Identification , Authentication, Authorization, Accountability
6. Quality of Service
7. Network Security
8. PAN (Personal Area Network)
9. MAN (Metropolitan Area Network)
10. Firewall

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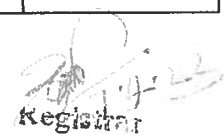
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Course Code: MCA-15

Course: - Computer Networks and Internet Protocols

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Course: - Artificial Intelligence

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Course: - Theory of Computations

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Course: - IoT and Cloud Computing

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Course: - Elective – High Speed Network

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