MASTER OF COMPUTER APPLICATION

ASSIGNMENTS

MCA – 3rd SEMESTER

(SESSON 2023-2024)

Directorate of Distance Education
Guru Jambheshwar University of Science & Technology
Hisar - 125001

GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: Master of Computer Application

Course Name: Machine Learning **Semester: 3rd**
Code: MCA-31 **Total Marks: 30**

Important Instructions

1. Attempt all questions from each assignment given below.
2. Each assignment carries 15 marks.
3. All questions are to be attempted in legible handwriting on plane white A-4 size paper and upload the scanned copy of the assignments on student's portal.

ASSIGNMENT-I

1. Define machine learning techniques and also explain different type of machine learning techniques with example in details.
2. What do you mean by unsupervised learning? Illustrate k-means clustering with the help of a real life problem.
3. Explain decision tree with example. Also describe different measure used in the development of decision tree.

ASSIGNMENT-II

1. What is single and multilayer perceptron? Define backpropagation algorithm in details.
2. Define term instance based learning. Explain k-nearest neighbour algorithm with the help of an example.
3. Explain supervised learning. Also describe support vector machine technique with its pros and cons.

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: Master of Computer Application

Course Name: Advance Operating System **Semester: 3rd**
Code: MCA-32 **Total Marks: 30**

Important Instructions

4. Attempt all questions from each assignment given below.
5. Each assignment carries 15 marks.
6. All questions are to be attempted in legible handwriting on plane white A-4 size paper and upload the scanned copy of the assignments on student's portal.

ASSIGNMENT-I

Q1. Discuss the concept of operating system. Also explain its function and characteristics.

Q2. Explain operating system services and system calls. Explain Types of operating system in detail.

Q3. Write short note on:
1) PCB
2) CPU Scheduling
3) Thrashing

ASSIGNMENT-2

Q1. What is File system? Discuss various types of files and their access methods in detail.

Q2. What do you mean by Distributed operating system? Describe the issues in distributed operating system in detail.

Q3. Write short note on:
1) Paging
2) Segmentation
3) TLB

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: Master of Computer Application

Course Name: Data Analytics **Semester: 3rd**
Code: MCA-33 **Total Marks: 30**

Important Instructions

7. Attempt all questions from each assignment given below.
8. Each assignment carries 15 marks.
9. All questions are to be attempted in legible handwriting on plane white A-4 size paper and upload the scanned copy of the assignments on student's portal.

ASSIGNMENT-I

4. Define different data type in R with suitable coding and example.
5. Explain any five statistical function used to summarise the data with the help of an example data file.
6. How charts help in data visualization. Explain different type of charts used in R to visualize the data appropriately.

ASSIGNMENT-II

4. What do you mean by predictive modelling? Describe classification and performance metrics used in classification.
5. Explain simple and multiple linear regression. Also write the function used for linear regression in R with syntax.
6. Explain the terms.
   a. Confusion matrix
   b. F-measure
   c. Kappa statistics
   d. ROC

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: Master of Computer Application

Course Name: Cyber Security **Semester: 3rd**
Code: MCA-34 **Total Marks: 30**

Important Instructions

1. Attempt all questions from each assignment given below.
2. Each assignment carries 15 marks.
3. All questions are to be attempted in legible handwriting on plane white A-4 size paper and upload the scanned copy of the assignments on student's portal.

ASSIGNMENT-I

Q1. Discuss the concept of Network and Security. Also explain the advantages of Cyber Security.

Q2. Explain various attacker techniques in detail

Q3. Describe various tools and methods used in cybercrime.

ASSIGNMENT-2

Q1. Discuss Indian IT Act in detail

Q2. What do you mean by Cyber Crime? Explain in detail Cyber Attacks and Weapons.

Q3. Explain Internet and Social Media in detail.

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GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR
DIRECTORATE OF DISTANCE EDUCATION

Programme: Master of Computer Application

Course Name: Theory of Computation **Semester: 3rd**
Code: MCA-35 **Total Marks: 30**

Important Instructions

1. Attempt all questions from each assignment given below.
2. Each assignment carries 15 marks.
3. All questions are to be attempted in legible handwriting on plane white A-4 size paper and upload the scanned copy of the assignments on student's portal.

ASSIGNMENT-I

1. Define deterministic finite automata with suitable example.
2. Explain finite state machine and also describe the types of finite state machine withexample.
3. Describe the steps to minimize the finite automata with example.

ASSIGNMENT-2

1. What do you mean by Chomsky Normal Form (CNF)? Describe it with appropriate example.
2. Define pushdown automata with example.
3. What is Turing machine and also define the types of Turing machine.

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