

**MASTER OF COMPUTER APPLICATION**

# **ASSIGNMENTS**

**MCA – 1<sup>ST</sup> SEMESTER**



**(SESSION 2024-2025)**

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

**CENTRE FOR DISTANCE AND ONLINE EDUCATION (CDOE)**  
**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR**

**Course: Database Management System**

**Semester: 1<sup>st</sup>**

**Paper Code: MCA-11**

**Total Marks=30**

**Important Instructions**

- Attempt all questions from each assignment given below.
- Each assignment carries 15 marks.
- All questions are to be attempted in legible handwriting on plane white A-4 sizepaper.

**ASSIGNMENT-I**

- Q1. Compare and contrast file systems with database systems. What are the key characteristics that distinguish a database approach?
- Q2. What are the primary responsibilities of a Database Administrator (DBA)? Discuss how these responsibilities contribute to the effective management of a database system.
- Q3. Define entity types, attributes, and relationships in the context of the E-R model. How can you represent these elements in an E-R diagram?

**ASSIGNMENT-II**

- Q1. Explain the process of normalization. What are database anomalies, and how does normalization help eliminate them?
- Q2. Describe the ACID properties of transactions in database systems. Why are these properties essential for maintaining the integrity of a database?
- Q3. Discuss the significance of locking techniques and time-stamp ordering in maintaining data consistency.

**Prepared by:**  
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR**  
**DIRECTORATE OF DISTANCE EDUCATION**  
**Programme: Master of Computer Application**

**Course Name: Web Designing**  
**Code: MCA-12**

**Semester:1<sup>st</sup>**  
**Total Marks: 30**

**Important Instructions**

- Attempt all questions from each assignment given below.
- Each assignment carries 15 marks.
- 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. | What is Navigation System? Explain various navigation systems in detail. | 5 |
| Q2. | Explain various HTML elements with proper example.                       | 5 |
| Q3. | What is the use of CSS in HTML documents. Discuss in detail              | 5 |

**ASSIGNMENT-2**

- |     |  |   |
|-----|--|---|
| Q1. | What do you understand by JavaScript? Explain JavaScript Object model in detail. | 5 |
| Q2. | Discuss in detail about the programming languages for server-side scripting.     | 5 |
| Q3. | Explain future and advance features of XML.                                      | 5 |

**Prepared By:**  
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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR,  
CENTRE FOR DISTANCE AND ONLINE EDUCATION  
Programme: Master of Computer Application**

**Course Name: Java Programming  
Code: MCA-13**

**Semester: 1<sup>st</sup>  
Total Marks: 30**

**Important Instructions**

- Attempt all questions from each assignment given below.
- Each assignment carries 15 marks.
- 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 looping structures (For, While and Do-while) in Java with proper example. | 5 |
| Q2. | What is inner class? Explain with suitable example.                               | 5 |
| Q3. | Differentiate between overloading and overriding methods with example.            | 5 |

**ASSIGNMENT-2**

- |     |  |   |
|-----|--|---|
| Q1. | Explain Byte Stream classes with example.                              | 5 |
| Q2. | Explain various types of Events in Java.                               | 5 |
| Q3. | What do you understand by Frame? Write down a program to create frame. | 5 |

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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR**

**CENTRE FOR DISTANCE AND ONLINE EDUCATION**

**Programme: Master of Computer Application**

**Course Name: Software Engineering**

**Semester: 1st**

**Code: MCA-14**

**Total Marks: 30**

**Important Instructions:**

- Attempt all questions from each assignment given below.
- Each assignment carries 15 marks.
- 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 term software development Life Cycle? Explain different software development life cycle phases in detail? 5
- Q2. Explain waterfall model and write the advantage and disadvantages of the model with suitable diagram? 5
- Q3. Difference between cohesion and coupling 5

**ASSIGNMENT-2**

- Q1. Write short note on:
1. Functional and Non-Functional requirements
  2. Design methodologies
  3. What is software testing? 5
- Q2. What are various advantages and limitations of CASE Tools? 5
- Q3. What is software quality? Explain various types of quality factors? 5

Prepared By:

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**GURU JAMBHESHWAR UNIVERSITY OF SCIENCE & TECHNOLOGY, HISAR**  
**DIRECTORATE OF DISTANCE EDUCATION**  
**Programme: Master of Computer Application**

**Course Name: Computer Networks and Internet Protocols**  
**Code: MCA-15**

**Semester:1<sup>st</sup>**  
**Total Marks: 30**

**Important Instructions**

- Attempt all questions from each assignment given below.
- Each assignment carries 15 marks.
- 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. | Define computer network. Explain different types of computer network in detail. | 5 |
| Q2. | Give a complete description of TCP/IP reference Model with proper diagram.      | 5 |
| Q3. | Discuss in detail about the ALOHA.  | 5 |

**ASSIGNMENT-2**

- |     |  |   |
|-----|--|---|
| Q1. | Explain various congestion control algorithms in detail. | 5 |
| Q2. | What is IP addressing? Explain IPV4 and IPV6 in detail.  | 5 |
| Q3. | Explain DNS, HTTP and WWW.                               | 5 |

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