

MASTER OF COMPUTER APPLICATION

ASSIGNMENTS

MCA – 1st SEMESTER



(SESSION 2026-2027)

**Centre for Distance and Online 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
Paper Code: MCA-11

Semester: 1st
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.

ASSIGNMENT-I

- Q1. What is the difference between a file system and a database system? Explain the main features that make a database system different from a traditional file system.
- Q2. What are the main duties and responsibilities of a Database Administrator (DBA)? Explain how these responsibilities help in managing and maintaining a database effectively.
- Q3. What do you mean by entity types, attributes, and relationships in the E-R model? Explain how these components are represented using 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.

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

Course Name: Web Designing
Paper Code: MCA-12

Semester: 1st
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

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|-----|---|---|
| Q1. | Explain Various organization schemes and organization structures. | 5 |
| Q2. | Explain various core attributes in HTML with proper example. | 5 |
| Q3. | Explain Navigation System and its types. | 5 |

ASSIGNMENT-2

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|-----|--|---|
| Q1. | Explain JavaScript Object model in detail. | 5 |
| Q2. | What is PERL? Explain various data structures in PERL. | 5 |
| Q3. | Explain ASP and JSP Lifecycle in detail. | 5 |

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

Course Name: Java Programming
Paper Code: MCA-13

Semester: 1st
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

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|-----|---|---|
| Q1. | Discuss looping structures (For, While and Do-while) in Java with proper example. | 5 |
| Q2. | Explain different types of Inheritance with proper example. | 5 |
| Q3. | Differentiate between overloading and overriding methods with example. | 5 |

ASSIGNMENT-2

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|-----|--|---|
| 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
Code: MCA-14

Semester: 1st
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. What is a software process model? Explain the Prototyping Model and mention its main advantages and limitations. 5

Q2. What is software project estimation? Explain Function Point Analysis and COCOMO in brief. 5

Q3. What is software risk? Explain the basic steps involved in identifying, analyzing, and managing risks in a software project. 5

ASSIGNMENT-II

Q1. What is Software Requirement Engineering? Explain functional and non-functional requirements with suitable examples. 5

Q2. What is a Software Requirement Specification (SRS)? Explain its purpose and the main characteristics of a good SRS. 5

Q3. Explain Black Box Testing and White Box Testing. Differentiate between them and give one suitable example of each. 5

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

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

Semester: 1st
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-1

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|-----|---|---|
| Q1. | Define Network Topology. Explain different types of network topologies in detail. | 5 |
| Q2. | Give a complete description of ISO-OSI reference Model with proper diagram. | 5 |
| Q3. | Discuss Flow Control Protocols in detail. | 5 |

ASSIGNMENT-2

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|-----|---|---|
| Q1. | What is IP addressing? Explain IPV4 and IPV6 in detail. | 5 |
| Q2. | Explain various routing algorithms in detail. | 5 |
| Q3. | Explain TCP, UDP and Internet Protocol. | 5 |

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