

MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)
M.C.A. Sem-I : SUMMER : 2026
SUBJECT: APPLIED DATABASE MANAGEMENT SYSTEMS

Day : Friday
Date : 22/05/2026

S-25932-2026

Time : 10:00 AM-01:00 PM
Max. Marks : 60

NB :

1. Figures to the right indicate FULL marks.
2. Answer to both the sections should be written in the SAME answer book.
3. Section – II- Question 7 is COMPULSORY, it carries 10 marks. Attempt any ONE question from rest of the TWO questions in Section II, it carries 10 marks.
4. Section- I – Attempt any FIVE questions. Each question carries 08 marks.

SECTION - I

- Q. 1 Write the concept of Database Schema and Instances. (8)
- Q. 2 Explain HDM, NDM and RDM Data Models. (8)
- Q. 3 What is Relational Algebra? Explain DIVIDE and RENAME operator with example. (8)
- Q. 4 Write the concept of Dynamic Hashing and Static Hashing. (8)
- Q. 5 Explain the need of Concurrency Control in Database. (8)
- Q. 6 Attempt ANY TWO of the following: (Short Answer) (4x2)
- a) DBMS Interfaces.
 - b) Multiple Granularity.
 - c) Types of Attribute.

SECTION - II

- Q. 7 Draw the E-R diagram for Library Management System. (10)
- Q. 8 The initial database for Online Book Store database is (Order_id, Customer_Name, Address, Gender, Customer_Email, Book_Title, Author_Name, Author_Email, Quantity) normalized the database upto 3NF. (10)
- Q. 9 Explain Heterogeneous and Homogenous database. (10)

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MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)
M.C.A. Sem-I : SUMMER : 2026
SUBJECT: MANAGEMENT CONCEPTS & APPLICATIONS

Day : Monday
Date : 01/06/2026

S-25936-2026

Time : 10:00 AM-01:00 PM
Max. Marks : 60

Date:

NB :

1. Figures to the right indicate FULL marks.
2. Answer to both the sections should be written in the SAME answer book.
3. Section – II- Question 7 is COMPULSORY, it carries 10 marks. Attempt any ONE-question from rest of the TWO questions in Section II, it carries 10 marks.
4. Section- I – Attempt any FIVE questions. Each question carries 08 marks.

SECTION - I

- Q. 1 Define *Management* and discuss its nature and significance in achieving organizational goals. (8)
- Q. 2 Organizations plan at multiple levels — from long-term vision to daily operations. Discuss the different types of planning with suitable examples from modern business settings. (8)
- Q. 3 Describe the key steps involved in the process of organizing, emphasizing how each step contributes to building an effective organizational structure. (8)
- Q. 4 Managers cannot monitor every detail — they focus only on significant deviations. Explain this idea through the concept of Management by Exception (MBE). (8)
- Q. 5 Compare and contrast traditional commerce and e-commerce models, focusing on their differences in scalability, cost efficiency, and operational reach. (8)
- Q. 6 Attempt ANY TWO of the following: (Short Notes) (4x2)
- a) Process of Decision Making
 - b) Expert Systems: Role in Intelligent Decision Making
 - c) Decision Support Systems (DSS)

SECTION - II

- Q. 7 A fast-growing tech startup is struggling to meet project deadlines due to a shortage of skilled developers. As the HR manager, how would you emphasize the importance of recruitment in ensuring the company's long-term success and competitiveness? (10)
- Q. 8 During a major system failure, the software development team looks to their leader for direction. What leadership qualities and style should the leader demonstrate to manage the crisis effectively and maintain team confidence? (10)
- Q. 9 A software company finds that individual employees are working hard, but their efforts don't align with organizational goals. As a manager, how would you apply the concept and process of Management by Objectives (MBO) to ensure goal alignment and measurable outcomes? (10)

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MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)
M.C.A. Sem-I : SUMMER : 2026
SUBJECT: COMPUTER NETWORKS

Day : Thursday
Date : 28/05/2026

S-25933-2026

Time : 10:00 AM-01:00 PM
Max. Marks : 60

NB :

1. Figures to the right indicate FULL marks.
2. Answer to both the sections should be written in the SAME answer book.
3. Section – II- Question 7 is COMPULSORY, it carries 10 marks. Attempt any ONE question from rest of the TWO questions in Section II, it carries 10 marks.
4. Section- I – Attempt any FIVE questions. Each question carries 08 marks.

SECTION - I

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|------|---|-------|
| Q. 1 | Define Computer Network. Explain Goals and Applications of Network | (8) |
| Q. 2 | What is Switching? Explain Message Switching and Packet Switching | (8) |
| Q. 3 | Explain Shortest Path Routing with the help of appropriate example | (8) |
| Q. 4 | Explain various Application and Design Issues of Wireless Sensor Network | (8) |
| Q. 5 | What is Protocol? Explain FTP, SMTP, SNMP and MIME | (8) |
| Q. 6 | Attempt ANY TWO of the following: (Short Notes)
a) Internet
b) Mobile Generations
c) Bluetooth | (4x2) |

SECTION - II

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|------|---|------|
| Q. 7 | Assume you are the Network Administrator of your college. Design a network for various departments and explain which Topology best suits to your design, along with its advantages and disadvantages | (10) |
| Q. 8 | Find the Class of each IP Address given below; give the suitable explanation for your answer
a. 170.12.14.87
b. 198.220.106.220
c. 14.23.720.8
d. 255.5.150.121
e. 134.11.178.156
f) 214.120.24.6 | (10) |
| Q. 9 | What is Mobile Ad-Hoc Network? Explain On-Demand Distance Vector Protocol for MANET | (10) |

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Day : Tuesday

Date : 26/05/2026

S-25934-2026

Time : 10:00 AM-01:00 PM

Max. Marks : 60

NB :

1. Figures to the right indicate FULL marks.
2. Answer to both the sections should be written in the SAME answer book.
3. Section – II- Question 7 is COMPULSORY, it carries 10 marks. Attempt any ONE question from rest of the TWO questions in Section II, it carries 10 marks.
4. Section- I – Attempt any FIVE questions. Each question carries 08 marks.

SECTION - I

- Q. 1 Explain the concept of Polymorphism with reference to the concept function overloading (8)
with example.
- Q. 2 Explain concept of Thread? Explain its lifecycle. (8)
- Q. 3 Explain generics in Java with major advantages of using generics? (8)
- Q. 4 Explain inheritance and types of inheritance. (8)
- Q. 5 a. What is Exception? How an Exception is Handled in java. (8)
b. Write a simple java program to handle ArithmeticException in java.
- Q. 6 Attempt ANY TWO of the following: (Short Answer) (4x2)
a) Features of Java
b) Wrapper Classes
c) ArrayList

SECTION - II

- Q. 7 Write a program in java to check if the entered integer is an ARMSTRONG (10)
- Q. 8 Define a class Marks which accepts marks data of a student – roll, name, marks for 5 (10)
subjects using constructor and define three methods to calculate total, average and to assign
result like pass (if has secured more than 40 in subject) or fail. Design and implement the
class.