

**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2025**  
**SUBJECT: DATA WAREHOUSING & DATA MINING**

Day : Thursday  
Date : 15/05/2025

S-26129-2025

Time : 02:00 PM-05:00 PM  
Max. Marks : 60

N.B.

- 1) Q. No. 7 is **COMPULSORY**.
- 2) Attempt **ANY FIVE** questions from Section – I Out of the remaining questions attempt **ANY ONE** questions from Section- II.
- 3) Answers to **BOTH** the section should be written in the **SAME** answer book.
- 4) Figures to the right indicate **FULL** marks.

**SECTION – I**

- |     |   |      |
|-----|---|------|
| Q.1 | What is data reduction strategies, discuss any two strategies for obtaining reduced data.                                   | [08] |
| Q.2 | Differentiate between Classification and Clustering.  | [08] |
| Q.3 | What is Correlation Analysis? Explain its uses.   | [08] |
| Q.4 | Explain the Architecture of typical data mining system.   | [08] |
| Q.5 | Explain descriptive and predictive data mining.   | [08] |
| Q.6 | Write short notes on any TWO:<br>a) Importance of BI<br>b) Data normalization<br>c) Data cube operations<br>d) Tree pruning | [08] |

**SECTION – II**

- |     |  |      |
|-----|--|------|
| Q.7 | Discuss the use and application of Data Warehouse for sales and marketing. | [10] |
| Q.8 | Explain hierarchical method for clustering with suitable example.          | [10] |
| Q.9 | What is market basket analysis? Explain it with suitable example.          | [10] |

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**SUBJECT: DATA WAREHOUSING & DATA MINING**

Day : Thursday  
Date : 15/05/2025

**S-26129-2025**

Time : 02:00 PM-05:00 PM  
Max. Marks : 100

**N.B.**

- 1) Attempt any **FIVE** questions from Section – I.
- 2) Attempt any **TWO** questions from Section – II.
- 3) Answers to both the sections should be written in **SAME** answer book.

**SECTION – I**

- Q.1** What is data reduction strategies, discuss any two strategies for obtaining reduced data. (12)
- Q.2** Differentiate between Classification and Clustering. (12)
- Q.3** What is Correlation Analysis? Explain its uses. (12)
- Q.4** Explain the Architecture of typical data mining system. (12)
- Q.5** Explain descriptive and predictive data mining. (12)
- Q.6** Write short notes on any **TWO**: (12)
- a) Importance of BI
  - b) Data normalization
  - c) Data cube operations
  - d) Tree pruning

**SECTION – II**

- Q.7** Discuss the use and application of Data Warehouse for sales and marketing. (20)
- Q.8** Explain hierarchical method for clustering with suitable example. (20)
- Q.9** What is market basket analysis? Explain it with suitable example. (20)

\* \* \* \*



**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2025**  
**SUBJECT: CLOUD COMPUTING CONCEPTS**

Day : Tuesday  
Date : 13/05/2025

**S-26127-2025**

Time : 02:00 PM-05:00 PM  
Max. Marks : 100

**N.B.**

1. Attempt **ANY FIVE** questions from Section – I, each question carries 08 marks.
2. Attempt **ANY TWO** questions from Section – II, each question carries 10 marks
3. **Question No. 7 is COMPULSORY** it carries 10 marks. and Attempt **ANY TWO** questions from rest of the questions in Section II, each question carries 10 marks.
4. Answers to Sections I & II should be written in **SAME** answer book.

**SECTION – I**

- |   | CO  | BL  |      |
|---|-----|-----|------|
| <b>Q.1</b> What are the main characteristics of cloud computing? How do these features benefit modern organizations?                      | CO1 | BL2 | (08) |
| <b>Q.2</b> Explain the concept of virtualization and its role in enhancing cloud resource efficiency.                                     | CO2 | BL4 | (08) |
| <b>Q.3</b> Discuss how cloud-based solutions help reduce both capital and operational expenditures for businesses.                        | CO3 | BL4 | (08) |
| <b>Q.4</b> What are the major challenges organizations face during cloud adoption? How can these be addressed using case-based practices? | CO4 | BL5 | (08) |
| <b>Q.5</b> Compare and contrast IaaS, PaaS, and SaaS models with suitable use-case examples for each.                                     | CO2 | BL4 | (08) |
| <b>Q.6</b> Write short notes on <b>ANY TWO</b><br>a) Disaster recovery in cloud<br>b) Google Cloud<br>c) Cloud Economics                  | CO2 | BL2 | (08) |
|   | CO2 | BL2 |      |
|   | CO2 | BL2 |      |

**SECTION – II**

- |  |     |     |      |
|--|-----|-----|------|
| <b>Q.7</b> A healthcare startup needs to store and process sensitive patient data securely while maintaining system uptime. Suggest a cloud strategy, highlighting availability and security concerns. | CO5 | BL5 | (10) |
| <b>Q.8</b> An education tech company wants to launch an e-learning app that can scale quickly. Recommend a suitable cloud solution with justification.   | CO6 | BL6 | (10) |
| <b>Q.9</b> A firm want to migrate from on premise software to cloud-based solutions due to budget constraints. Analyze the cost-related factors and suggest the best-suited cloud model.               | CO5 | BL5 | (10) |



**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2025**  
**SUBJECT: DATA STRUCTURES USING PYTHON**

Day : Thursday  
Date : 08/05/2025

S-26128-2025

Time : 02:00 PM-05:00 PM  
Max. Marks : 60

**N.B.:**

- 1) Q.No.7 is **COMPULSORY**.
- 2) Attempt **ANY FIVE** questions from Section – I. Out of the remaining questions attempt **ANY ONE** questions from Section – II.
- 3) Answers to both the section should be written in the **SAME** answer book.
- 4) Figures to the right indicate **FULL** marks.

**SECTION – I**

- Q.1 List and describe use of iterative statements in python. [08] CO1 BL1
- Q.2 Analyse the use of user defined functions in python. Also comment on default argument/parameter in function. [08] CO2 BL4
- Q.3 Evaluate the use of exception handling in python with example. [08] CO1 BL6
- Q.4 What do you know about stack? Describe use of it in various applications. [08] CO3 BL2
- Q.5 What do you know about binary tree? Prepare a binary tree with following data and explain process about how tree is constructed.  
65, 32, 79, 85, 71, 30, 44, 25 [08] CO3 BL3
- Q.6 Write short notes on **ANY TWO** of the following: [08]  
a) Type Conversion CO1 BL2  
b) Red Black Trees CO3 BL4  
c) Circular Queue CO2 BL2

**SECTION – II**

- Q.7 What is ADT? Design and develop a code to implement Date type as ADT. [10] CO1 BL3
- Q.8 What do you know about polynomial equation? Synthesize use of linked list to solve polynomial arithmetic. [10] CO2 BL5
- Q.9 Write an algorithm for quick sort and evaluate its use to sort data with example. Also comment on merits and demerits of it. [10] CO4 BL6



M.C.A. SEM - II (CBCS - 2022 - Regular) (CBCS - 2023 - Distance)  
**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2025**  
**SUBJECT: OBJECT ORIENTED SOFTWARE ENGINEERING**

Day : Tuesday  
Date : 06/05/2025

S-26126-2025

Time : 02:00 PM-05:00 PM  
Max. Marks : 60

**N.B.:**

- 1) Section- I – Attempt any **FIVE** questions. Each question carries **08** marks.
- 2) 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.
- 3) Answer to both the sections should be written in the **SAME** answer book.
- 4) To the right of each question are mentioned (i) figures, indicating **FULL** marks, (ii) Course Outcome number (CO), and (iii) Blooms Taxonomy level (BL).

**SECTION-I**

40 Marks

- |            |  |      |           |           |
|------------|--|------|-----------|-----------|
| <b>Q.1</b> | Explain the various software process models with neat diagrams.  | (08) | CO<br>CO1 | BL<br>BL2 |
| <b>Q.2</b> | Differentiate between object-oriented modeling and structured modeling.                                    | (08) | CO2       | BL2       |
| <b>Q.3</b> | Define Rational Unified Process (RUP). Explain in detail various phases of Rational Unified Process (RUP). | (08) | CO4       | BL3       |
| <b>Q.4</b> | Explain different types of UML diagrams used in advanced structural modeling with suitable examples        | (08) | CO4       | BL2       |
| <b>Q.5</b> | Draw a Sequence diagram and a Collaboration diagram for a student course registration system.              | (08) | CO4       | BL3       |
| <b>Q.6</b> | Write short notes on any TWO:  | (08) |           |           |
|            | a) Polymorphism  |      | CO1       | BL1       |
|            | b) Package Diagram   |      | CO4       | BL2       |
|            | c) Deployment Diagram  |      | CO5       | BL2       |

**SECTION-II**

20 Marks

- |            |  |      |     |     |
|------------|--|------|-----|-----|
| <b>Q.7</b> | You have been asked to design the UML model of a Library Management System.<br>Answer the following:<br>a) Identify two types of users and three major functions of the system<br>b) Draw a use case diagram including users and their interactions.<br>c) Design a sequence diagram for the "Book Issue" process.<br>d) Justify the need for state chart diagram in this context. | (10) | CO4 | BL4 |
| <b>Q.8</b> | Design the Component and Deployment diagrams for an Online Shopping System.  | (10) | CO5 | BL3 |
| <b>Q.9</b> | How would you model a Hospital Management System using Interaction diagrams?   | (10) | CO4 | BL3 |



M.C.A. SEM - II (CBCS - 2022-2023-2024-2025) / CBCS - 2023-2024-2025-2026

**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2025**  
**SUBJECT: OBJECT ORIENTED SOFTWARE ENGINEERING**

Day : Tuesday  
Date : 06/05/2025

**S-26126-2025**

Time : 02:00 PM-05:00 PM  
Max. Marks : 60

**N.B.:**

- 1) Section- I – Attempt any **FIVE** questions. Each question carries **08** marks.
- 2) 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.
- 3) Answer to both the sections should be written in the **SAME** answer book.
- 4) To the right of each question are mentioned (i) figures, indicating **FULL** marks, (ii) Course Outcome number (CO), and (iii) Blooms Taxonomy level (BL).

**SECTION-I**

40 Marks

- |            |  |      |           |           |
|------------|--|------|-----------|-----------|
| <b>Q.1</b> | Explain the various software process models with neat diagrams.  | (08) | CO<br>CO1 | BL<br>BL2 |
| <b>Q.2</b> | Differentiate between object-oriented modeling and structured modeling.                                    | (08) | CO2       | BL2       |
| <b>Q.3</b> | Define Rational Unified Process (RUP). Explain in detail various phases of Rational Unified Process (RUP). | (08) | CO4       | BL3       |
| <b>Q.4</b> | Explain different types of UML diagrams used in advanced structural modeling with suitable examples        | (08) | CO4       | BL2       |
| <b>Q.5</b> | Draw a Sequence diagram and a Collaboration diagram for a student course registration system.              | (08) | CO4       | BL3       |
| <b>Q.6</b> | Write short notes on any <b>TWO</b> :  | (08) |           |           |
|            | a) Polymorphism  |      | CO1       | BL1       |
|            | b) Package Diagram   |      | CO4       | BL2       |
|            | c) Deployment Diagram  |      | CO5       | BL2       |

**SECTION-II**

20 Marks

- |            |  |      |     |     |
|------------|--|------|-----|-----|
| <b>Q.7</b> | You have been asked to design the UML model of a Library Management System.<br>Answer the following:<br>a) Identify two types of users and three major functions of the system<br>b) Draw a use case diagram including users and their interactions.<br>c) Design a sequence diagram for the "Book Issue" process.<br>d) Justify the need for state chart diagram in this context. | (10) | CO4 | BL4 |
| <b>Q.8</b> | Design the Component and Deployment diagrams for an Online Shopping System.  | (10) | CO5 | BL3 |
| <b>Q.9</b> | How would you model a Hospital Management System using Interaction diagrams?   | (10) | CO4 | BL3 |