

**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2026**  
**SUBJECT: OBJECT ORIENTED SOFTWARE ENGINEERING**

Day : Friday  
Date : 22/05/2026

**S-26126-2026**

Time : 02:00 PM-05:00 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 Software Process Models and compare the Waterfall Model with the Spiral Model. (8)
- Q. 2 What is Object-Oriented Analysis (OOA)? Explain its advantages and stages. (8)
- Q. 3 Explain Behavioral Modeling in UML and describe Use Case realization. (8)
- Q. 4 Discuss the elements of Object Modeling and how to identify classes and objects in a system. (8)
- Q. 5 Define Interaction Modeling. Explain Sequence and Collaboration Diagrams with examples. (8)
- Q. 6 Attempt ANY TWO of the following: (Short Answer) (4x2)
- a) Component Diagram
  - b) State Chart Diagram
  - c) Activity Diagram

**SECTION - II**

- Q. 7 Discuss the importance of architectural modeling using Component and Deployment Diagrams. (10)
- Q. 8 Write a case study for Object-Oriented Design for an Online Shopping System. (10)
- Q. 9 Explain the concept of Software Reuse and its importance in Object-Oriented Software Engineering. (10)

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Day : Saturday

Date : 30/05/2026

S-26129-2026

Time : 02:00 PM-05:00 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 role of Business process in Business Intelligence. (8)
- Q. 2 What is Data Warehouse? Discuss three-tier architecture. (8)
- Q. 3 Explain different OLAP models. (8)
- Q. 4 How data cleaning is done in data pre-processing. (8)
- Q. 5 Explain nature and type of data handled in data mining with example. (8)
- Q. 6 Attempt ANY TWO of the following: (Short Answer) (4x2)
- a) Data mart
  - b) Binning Method
  - c) Bayes Theorem

**SECTION - II**

- Q. 7 Explain use of Apriori algorithm for association rule mining with Example. (10)
- Q. 8 Discuss classification technique in case of Credit Card Issue process by Bank. (10)
- Q. 9 Explain Density based partitioning method in clustering. (10)

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**MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)**  
**M.C.A. Sem-II : SUMMER : 2026**  
**SUBJECT: CLOUD COMPUTING CONCEPTS**

Day : Thursday  
Date : 28/05/2026

**S-26127-2026**

Time : 02:00 PM-05:00 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 | Define cloud computing. Discuss advantages and limitations of cloud computing.                                                          | (8)   |
| Q. 2 | Explain the types of virtualization used in cloud computing with diagrams.                                                              | (8)   |
| Q. 3 | Describe the implementation of SOA in cloud systems and how it enhances interoperability.                                               | (8)   |
| Q. 4 | Explain cloud application deployment process and discuss tools used in web service deployment.                                          | (8)   |
| Q. 5 | What are the reliability and performance considerations in cloud management?                                                            | (8)   |
| Q. 6 | Attempt ANY TWO of the following: (Short Notes)<br>a) Cloud Security Models<br>b) Google Cloud Services<br>c) Virtualization Management | (4x2) |

**SECTION - II**

- |      |                                                                                                                                                                                                                                              |      |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|
| Q. 7 | TechAssist, an IT service company, wants to provide on-demand technical support through a cloud-hosted platform. Propose an appropriate cloud service model and discuss benefits in terms of availability, flexibility, and cost-efficiency. | (10) |
| Q. 8 | SecureBank plans to adopt hybrid cloud for transaction processing and data analytics. Discuss how hybrid cloud helps in maintaining compliance, security, and data integrity.                                                                | (10) |
| Q. 9 | RetailPro wants to use cloud computing for inventory management across multiple branches. Recommend suitable deployment and service models and explain how virtualization can improve performance.                                           | (10) |

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MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)

M.C.A. Sem-II : SUMMER : 2026

SUBJECT: DATA STRUCTURES USING PYTHON

Day : Tuesday  
Date : 26/05/2026

S-26128-2026

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 need of user defined function? Develop a code to write a function to check a number is prime or not and use to find sum of prime numbers form user input. [08] CO1 BL3
- Q.2 What do you know about list comprehension? Illustrate how we can use it with various examples. [08] CO2 BL4
- Q.3 What is exception? List and describe various types of exceptions can occur in python. [08] CO1 BL2
- Q.4 What is tree traversing? Explain any two tree traversing mechanisms and comment on when to use which. [08] CO3 BL6
- Q.5 List and describe iterative statements in python. [08] CO1 BL2
- Q.6 Write short notes on **ANY TWO** of the following: [08]  
a) Circular queue CO3 BL2  
b) Binary search CO3 BL2  
c) Set CO2 BL2

SECTION – II

- Q.7 What is Stack? Design code to use stack to convert following infix expression into postfix.  
 $A + B * C - (C + D) / E$  [10] CO4 BL5
- Q.8 What do you know about polynomial equation? Evaluate use of linked list for polynomial arithmetic with example. [10] CO3 BL6
- Q.9 Write an algorithm for merge sort and illustrate working of it with example data. [10] CO4 BL3