

Day : Friday

Date : 14/11/2025

W-26129-2025

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 the development of early frameworks for Decision Support Systems. (8)
- Q. 2 Discuss the core characteristics of a data warehouse and their advantages for different users like IT professionals and business analysts. (8)
- Q. 3 Outline the primary reasons for creating data marts in an enterprise setting. Compare the top-down and bottom-up approaches to building data marts. (8)
- Q. 4 Discuss the need for data preprocessing in the Data Mining pipeline. (8)
- Q. 5 Explain data mining task primitives such as task-relevant data and interestingness measures. (8)
- Q. 6 Attempt ANY TWO of the following: (Short Answer) (4x2)
- a) Three-tiers of Data Warehouse.
 - b) Handling missing values.
 - c) Differentiate classification from prediction.

SECTION - II

- Q. 7 Describe the architecture of a typical data mining system. Discuss the types of data that can be mined and their unique pre-processing requirements. (10)
- Q. 8 Write in detail data preparation steps for classification and prediction, including feature selection and scaling. Compare methods like decision trees and neural networks based on interpretability and accuracy. (10)
- Q. 9 Explain clustering as an unsupervised task for grouping similar objects. (10)

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MASTER OF COMPUTER APPLICATIONS (CBCS - 2022 COURSE)

M.C.A. Sem-II : WINTER: 2025

SUBJECT: CLOUD COMPUTING CONCEPTS

Day : Wednesday

Date : 12/11/2025

W-26127-2025

Time : 02:00 PM-05:00 PM

Max. Marks : 60

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 | |
|--|-----|-----|------|
| Q.1 What are the key features of cloud computing? How is it different from traditional IT infrastructure? | CO1 | BL2 | (08) |
| Q.2 Explain how virtualization improves cloud service performance and efficiency. | CO2 | BL4 | (08) |
| Q.3 Describe how cloud computing helps reduce implementation and maintenance costs in organizations. | CO3 | BL2 | (08) |
| Q.4 Explain how web services are deployed in cloud environments. Discuss their advantages and disadvantages. | CO4 | BL4 | (08) |
| Q.5 Compare the features and pricing of any two cloud service providers like AWS, Azure, or Google Cloud. | CO5 | BL2 | (08) |
| Q.6 Write short notes on ANY TWO | | | (08) |
| a) Role of virtualization in cloud computing | CO1 | BL2 | |
| b) Cloud deployment models | CO2 | BL2 | |
| c) Cost reduction through cloud solutions | CO3 | BL2 | |

SECTION – II

- | | | | |
|---|-----|-----|------|
| Q.7 A small IT firm needs to host its internal tools and client portals using cloud services. Suggest a suitable architecture (IaaS/PaaS/SaaS) and justify your answer. | CO5 | BL5 | (10) |
| Q.8 A company wants to launch a web-based service with the ability to handle thousands of users over time. What kind of infrastructure should they use for scalability and flexibility? | CO6 | BL6 | (10) |
| Q.9 A business is considering migrating to the cloud to manage fluctuating workloads. What factors should they consider while selecting a cloud platform? Provide a recommendation | CO6 | BL5 | (10) |

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

Day : Monday
Date : 10/11/2025

W-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 What are various data types available in python? Also describe concept of type conversion in python. [08] CO2 BL1
- Q.2 Describe how python supports variable number of arguments with suitable example. [08] CO2 BL2
- Q.3 What is ADT? Design Queue as ADT and implement it. [08] CO3 BL5
- Q.4 What is tree traversing? List various tree traversing algorithms and describe any two algorithm along with difference among them. [08] CO3 BL4
- Q.5 What do you know about list comprehension? Evaluate use of user defined functions for it. [08] CO2 BL6
- Q.6 Write short notes on **ANY TWO** of the following: [08]
a) Dictionary CO2 BL1
b) Big O notation CO3 BL6
c) AVL Tree CO3 BL5

SECTION – II

- Q.7 Design linked list as ADT and write implementation for it. [10] CO3 BL3
- Q.8 A file contains data as numbers separated by white spaces, write a python code to read this data and sort them using selection sort. [10] CO2 BL5
- Q.9 What do you know about infix, postfix and prefix expression? Select a suitable data structure to convert infix expression into postfix and illustrate use of it with example. [10] CO4 BL6

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

Day : Friday
Date : 07/11/2025

W-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

		CO	BL
Q.1	Explain the RAD model. How does it differ from the Spiral model? (08)	CO1	BL2
Q.2	Discuss Inheritance and Polymorphism with UML examples. (08)	CO2	BL3
Q.3	Describe the steps involved in requirement elicitation and how they impact software design. (08)	CO4	BL2
Q.4	What are the different types of Interaction diagrams? Explain with suitable example. (08)	CO4	BL3
Q.5	Create a Class diagram and a State Chart diagram for a railway reservation system. (08)	CO4	BL3
Q.6	Write short notes on any TWO : (08)		
	a) V Model	CO1	BL1
	b) Interface in UML	CO3	BL1
	c) Use Case Diagram	CO4	BL2

SECTION-II

20 Marks

Q.7	You are designing an Online Shopping System similar to Amazon or Flipkart. (10)	CO3, CO5	BL3, BL4
	a) List two actors and four main use cases relevant to such a system.		
	b) Create a Use Case diagram for your system.		
	c) Draw a Component diagram for the checkout process.		
	d) Explain briefly how Deployment diagrams would be useful for system hosting.		
Q.8	Define Rational Unified Process (RUP). Explain in detail various phases of Rational Unified Process (RUP). (10)	CO4	BL3
Q.9	Explain software architecture styles and how they are represented in UML Deployment diagrams (10)	CO5	BL3