Dr. J. J. Magdum College of Engineering

Information Technology [2025-26]

CIE-I

Subject : Distributed Computing - Theory **Faculty :** PRANOTI TAMGAVE

Year : Final Year - SEM-VII **Marks :** 30 **Date :** 3 September, 2025 **Duration :** 60 Minutes

- Figures to the right indicate full marks.
- Draw neat diagram wherever necessary.
- Assume suitable data if necessary, stating it clearly.

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	**Solve following MCQs(1 Marks Each)**				
1.1	In distributed system, each processor has its own _____ a. local memory b. clock c. both local memory and clock d. none of the mentioned	1.00	CO1	Understand	1.2.1
1.2	If one site fails in distributed system then _____ a. the remaining sites can continue operating b. all the sites will stop working c. directly connected sites will stop working d. none of the mentioned	1.00	CO1	Analyze,Understand	2.5.1
1.3	Processes on the remote systems are identified by _____ a. host ID b. host name and identifier c. identifier d. process ID	1.00	CO1	Understand	1.7.1
1.4	Scaling transparency hides a. system expansion b. system collaboration c. system failure d. system security	1.00	CO1,CO2	Understand	1.6.1
1.5	The local operating system on the server machine passes the incoming packets to the a. server stub b. client stub c. client operating system d. binding agent	1.00	CO2	Understand,Remember	1.7.1

	1.6	What is close group in group communication? a. only members can send messages to the group as a whole b. processes that are not members (clients) can send message to the group c. the idea of groups is to support replicated servers d. processes that are not members (clients) but close to the group can send message to the group	1.00	CO2,CO3	Understand,Remember
	2	**Attemt any 3 (8 marks Each)**			
S Y - -	2.1	Define Distributed computing and explain different types of system models	8.00	CO1	Understand,Remember
- -	2.2	Enlist & Explain issues in design of Distributed system	8.00	CO1,CO2	Apply,Understand,Remember
S 1 2	2.3	What are the different failures? & How to failure handling in client server communication	8.00	CO2	Remember
	2.4	Explain RPC Model	8.00	CO2,CO3	Understand,Remember

2.5.3

1.2.1

2.5.2

2.5.1

1.7.1

Dr. J. J. Magdum College of Engineering

Information Technology [2025-26]

CIE-1

Subject : [IT702] Mobile Computing - Theory **Faculty :** NAMITA KOTHALI

Year : Final Year - SEM-VII **Marks :** 30 **Date :** NaN undefined, NaN **Duration :** 60 Minutes

- *All questions are compulsory*
- *Figures to the right indicate full marks.*
- *Draw neat diagram wherever necessary.*

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	**Q. A Solve following MCQs.**				
2	1. What does Medium Access Control (MAC) primarily manage? a. Signal amplification b. Device access to the medium c. Frequency modulation d. Analog-to-digital conversion	1.00	CO1	Remember	1.7.1
3	2. Which spread spectrum method uses rapid frequency changes? a. DSSS b. FHSS c. QAM d. PSK	1.00	CO2	Understand	1.2.2
4	3. Which signal propagation method involves reflections and interference? a. Line-of-Sight b. Ground wave c. Multipath d. Direct propagation	1.00	CO2	Remember	1.5.1
5	4. What is the role of guard bands in FDMA systems? a. To increase data rate b. To prevent adjacent channel interference c. To synchronize time slots d. To encode user identity	1.00	CO2	Remember	2.1.2
6	5. What is a primary benefit of wireless communication? a. High installation cost b. Limited mobility c. Scalability and flexibility d. Requires physical cabling	1.00	CO1	Remember	2.8.1

7	6. What is the primary function of an antenna in a radio system? a. Amplify signal b. convert radio waves into electrical signal and vice versa c. Filter noise d. provide impedance matching	1.00	CO1	Understand,Remember	1.6.1
8	**Q. B Attempt any 3. (8 marks each).**				
9	1. Apply the concept of spread spectrum to explain how DSSS improves signal security.	8.00	CO1	Analyze	2.2.2/ 3.6.1
10	2. Compare SDMA , FDMA, TDMA and CDMA mechanisms with respect to idea, terminal, signal propagations and advantages.	8.00	CO2	Analyze,Understand	2.6.5/ 3.6.2
11	3. How would you demonstrate signal propagation and different effects on it.	8.00	CO1	Apply,Understand	2.6.1/ 4.4.1
12	4. Enlist and describe the application of wireless communication system.	8.00	CO1	Understand,Remember	7.3.2/ 10.4.2

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Information Technology [2025-26]

Advance Database System

Subject : [PCC-IT 703] Advanced Database system - Theory **Faculty :** NIKITA PATIL

Year : Final Year - SEM-VII **Marks :** 30 **Date :** NaN undefined, NaN **Duration :** 0 Minutes

Instructions

- Figures to the right indicate full marks.
- Draw neat diagram wherever necessary.
- Assume suitable data if necessary, stating it clearly.

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	Solve the following MCQ				
1.1	1.What is the main purpose of query optimization in database systems? a. A) To reduce the size of the database b. B) To improve the efficiency of query execution c. C) To encrypt the data d. D) To create new tables	1.00	CO1	Understand,Remember	1.0.1
1.2	2.Which of the following is NOT a common measure of query cost? a. A) CPU usage b. B) Disk I/O c. C) Network latency d. D) Number of tuples in the database	1.00	CO2	Understand	2.5.1
1.3	3.What does the selection operation in query processing do? a. A) Combines rows from two tables b. B) Filters rows based on a condition c. C) Sorts the rows in ascending order d. D) Projects specific columns from a table	1.00	CO1	Understand	1.7.1
1.4	4.In join size estimation, which factor is primarily used? a. A) Number of columns in the table b. B) Number of tuples and join condition selectivity c. C) Memory size d. D) Network speed	1.00	CO2	Apply	1.6.1
1.5	5.What feature distinguishes an Object-Relational Database from a Relational Database? a. A) Use of tables to store data b. B) Support for structured data types and inheritance c. C) Use of SQL for queries d. D) Data normalization	1.00	CO2	Understand	1.7.1
1.6	6.In ORDBMS, what is an OID? a. A) Object Identification Number used to uniquely identify an object b. B) Operational Input Data c. C) Output Interface Descriptor d. D) Object Index Descriptor	1.00	CO2	Remember	1.0.1
2	Attempt any 3 of the following				

3	Q1. Explain the process of query processing and optimization in relational databases?	8.00	CO2	Apply	1.7.1
4	Q2. What are the different types of join operations in query processing?	8.00	CO2	Apply	1.7.1
5	Q3.Explain the differences between a Relational Database Management System (RDBMS) and an Object-Relational Database Management System (ORDBMS)?	8.00	CO2	Analyze	1.7.1
6	Q4.Explain how inheritance works in an Object-Relational Database?	8.00	CO2	Apply	2.6.2

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Information Technology [2025-26]

Data Science(Elective-I)

Subject : [PCE-IT704] Data Science - Theory **Faculty :** POURNIMA PATIL **Batch :** No data available

Year : Final Year - SEM-VII **Marks :** 30 **Date :** 3 September, 2025 **Duration :** 60 Minutes

Instructions:

1. Section A comprises of 6 questions carrying 1 mark each.
2. Draw diagram where required.

Sr.No.	Question	Marks	Course Outcome	Blooms Level	Performance Indicator
1	Q. A Solve following MCQ's(1 Marks each)				
2	1. What is the correct file extension for Python files? a. .pt b. .py c. .pyt d. .python	1.00	CO1	Remember	PO1.7.1
3	2. Which keyword is used to define a function in Python? a. func b. define c. def d. function	1.00	CO1	Analyze,Apply,Remember	PO1.7.1, PO2.5.1

4	3. What will be the output of the following code?
	`x = [1, 2, 3]`
	`print(x * 2)`
	a. [1, 2, 3, 1, 2, 3]
	b. [2, 4, 6]
	c. Error
	d. [1, 2, 3, 2]
		1.00	CO1	Remember	PO 1.7.1

5	4. Why is Python widely used in data science? a. It is a low-level language b. It has powerful libraries for data analysis and machine learning c. It is only used for web development d. It lacks community support	1.00	CO1	Apply,Remember	PO1.7.1 ~~PO2.6.2~~ PO2.6.2
6	5. Which of the following is NOT a core skill for a data scientist? a. Statistical analysis b. Machine learning c. Graphic design d. Data visualization	1.00	CO1	Remember	PO1.7.1
7	6. What role does AI play in data science? a. It stores data b. It visualizes data c. It automates decision-making based on data patterns d. It cleans data	1.00	CO1	Remember	PO1.7.1 PO2.8.3
8	Q. B Attempt any 3 (8 marks each)				

9	1. What is data science? What is Python? List and explain features of python.	8.00	CO1	Evaluate,Understand,Remember	PO 1.7.1 PO 2.5.2
10	2. Explain the role of data types in Python programming. Illustrate your answer with examples of the list data type. Additionally, describe various methods used to add and remove elements from a list in Python	8.00	CO1	Apply,Understand,Remember	PO 1.7.1, PO 2.6.5
11	3. Explain the core competencies required to become a successful data scientist. Support your answer with examples of how these skills are applied in real-world data science projects.	8.00	CO1	Apply,Understand	PO 2.7.1 PO 9.5.1
12	4. Explain in detail the concept of a Data Science Pipeline. Discuss each stage of the pipeline with suitable examples. Also, illustrate the pipeline with a neat diagram.	8.00	CO2	Analyze,Apply,Understand	PO 2.5.2, PO 2.5.3, PO 2.6.3