Register No : _____

THE KAVERY ENGINEERING COLLEGE

(An Autonomous Institution)

M.E DEGREE END SEMESTER THEORY EXAMINATIONS, NOV/DEC 2025

First Semester

Computer Science and Engineering

PCSB2402 – Database Practices

Regulations - 2024

Duration : 3 Hrs *Maximum : 100 Marks*

*PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)*

Q.No	*Questions*	*BTL*	*CO*	*Marks*
1.	List any two DDL commands.	L1	1	2
2.	Write the syntax of the insert command.	L2	1	2
3.	Define a transaction.	L1	2	2
4.	Identify the use of triggers.	L3	2	2
5.	Differentiate structured and semi structured data.	L2	3	2
6.	Define a Document Type Definition.	L1	3	2
7.	Explain the CAP theorem.	L2	4	2
8.	List the CRUD operations.	L1	4	2
9.	Define the use of granting privileges.	L1	5	2
10.	Define data privacy.	L1	5	2

*PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)*

Q.No		*Questions*	*BLT*	*CO*	*Marks*
11.	a	Discuss the concept of normalization in the context of relational data model.	L2	1	16
		Or			
	b	Discuss the different types of joins with examples.	L2	1	16
12.	a	Explain the architecture of distributed databases with a neat diagram.	L2	2	16
		Or			
	b	Explain the working of open database connectivity.	L2	2	16
13.	a	Implement XML coding to represent a collection of books and explain how XQuery works.	L3	3	16
		Or			
	b	Implement a XML database that stores product information for an e-commerce website and explain the working of XPath expressions.	L3	3	16

14.	a	i	Explain the architecture and working of the MongoDB data model.	L2	4	8
		ii	Design a Schema for a social media platform.	L3	4	8
			Or			
	b	i	Explain the working of Map Reduce concept.	L2	4	8
		ii	Design a schema to visit a real time analytics system for monitoring a website using Apache HBase.	L3	4	8
15.	a		You are working as a database administrator for an e-commerce platform that handles sensitive customer information, including credit card details, home addresses, and personal identifiers. Your platform is PCI-DSS (Payment Card Industry Data Security Standard) compliant, and it is critical to ensure that all sensitive customer data is properly encrypted and secure. What monitoring mechanisms would you put in place to detect unauthorized access attempts to customer data?	L5	5	16
			Or			
	b		Your company is developing a web application that interacts with a relational database (e.g., MySQL or PostgreSQL). During a recent security audit, it was discovered that the application is vulnerable to SQL injection attacks, where an attacker could input malicious SQL queries through user input fields, potentially gaining unauthorized access to the database or modifying data. In the event of a successful SQL injection attack, how would you detect, respond, and recover from the incident?	L5	5	16