Reg. No.												

Question Paper Code	12687

B.E. / B.Tech. / M.Tech. - DEGREE EXAMINATIONS, APRIL / MAY 2024

Fourth Semester

Computer Science and Engineering

(Common to, Computer Science and Engineering (AIML), Artificial and Intelligence and Data Science, Information Technology , M.Tech - Computer Science and Engineering & Computer and Communication Engineering)

20CSPC402 - DATABASE MANAGEMENT SYSTEMS

Regulations - 2020

Duration: 3 Hours | Max. Marks: 100

PART - A (10 × 2 = 20 Marks)

Answer ALL Questions

		Marks	K – Level	CO
1.	Define primary key with example.	2	K1	CO1
2.	What are the levels of data abstraction?	2	K1	CO1
3.	Compare between primary key and foreign key.	2	K2	CO2
4.	List the aggregate functions supported by SQL.	2	K2	CO2
5.	Define Shared lock.	2	K1	CO3
6.	Contrast the growing and shrinking phase.	2	K2	CO3
7.	Label ACID properties.	2	K1	CO4
8.	Classify the types of storage devices.	2	K2	CO4
9.	What is indexing and What are the different kinds of indexing?	2	K1	CO5
10.	What are the two types of fragmentation?	2	K1	CO6

PART - B (5 × 13 = 65 Marks)

Answer ALL Questions

			Marks	K – Level	CO
11.	a)	Explain the database system architecture with neat diagram.	13	K2	CO1
		OR			
	b)	Discuss about Entity Relationship Model. Draw an ER diagram for Library Management systems and explain in detail.	13	K2	CO1
12.	a)	Explain normalization and write in detail about First and Second Normal forms with suitable examples.	13	K2	CO2
		OR			
	b) i)	Interpret in detail about SQL fundamentals.	7	K2	CO2
	ii)	Classify any three operations of relational algebra with an example.	6	K2	CO2

13.	a)	Explain the types of serializability with example.	*13*	*K2*	*CO3*
		OR			
	b)	Elaborate how deadlock is prevented in detail.	*13*	*K2*	*CO3*
14.	a)	Demonstrate RAID and explain all the levels in RAID.	*13*	*K2*	*CO4*
		OR			
	b)	Summarize in detail about query optimization overview.	*13*	*K2*	*CO4*
15.	a)	Identify in detail about the distributed database architecture with neat diagram.	*13*	*K3*	*CO6*
		OR			
	b)	Develop briefly about the XML databases.	*13*	*K3*	*CO6*

PART - C (1 × 15 = 15 Marks)

16.	a)	Construct the B tree and B+ tree with suitable example.	*15*	*K2*	*CO5*
		OR			
	b)	Explain the various hashing techniques with suitable example.	*15*	*K2*	*CO5*