LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

M.Sc. DEGREE EXAMINATION – **COMPUTER SCIENCE**

FIRST SEMESTER – **NOVEMBER 2023**

PCS1MC03 – MODERN DATABASE MANAGEMENT

Date: 06-11-2023 Dept. No. Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

SECTION A – K1 (CO1)

	Answer ALL the questions	**(5 x 1 = 5)**
1	**Match the following**	
a)	Super Key	i) Boyce Codd normal form
b)	Candidate key	ii) Deadlock
c)	Query with in the where part	iii) Subset of a key is a key
d)	Transactions mutually waiting for others completion	iv) Argument types
e)	Application of TQM principles and practices	v) Data quality management

SECTION A – K2 (CO1)

	Answer ALL the questions	**(5 x 1 = 5)**
2	**State True or False**	
a)	Double rectangle representing strong entity sets in E-R diagram.	
b)	Group function in left side of the relational operator uses HAVING clause.	
c)	Derived data layer is associated with physical data marts.	
d)	Collection of meta data is referred as a repository.	
e)	Database administrator is a person who handles the data management issues.	

SECTION B – K3 (CO2)

	Answer any THREE of the following	**(3 x 10 = 30)**
3	Explain the three schema architecture with independencies.	
4	Interpret relational data model with definitions and properties.	
5	Explain subqueries and correlated subqueries with example.	
6	Explain data governance with objectives and goals.	
7	Articulate the security features of data management software.	

	SECTION C – K4 (CO3)	
	Answer any TWO of the following	**(2 x 12.5 = 25)**
8	Plan an ER diagram for the following shopping application: **Customer**(CustomerID, name, ContactNo, mobileNo) **Bill**(BillNo, CustID, BillDate, total Amount) **Product** (ProductID, Pname, ExpDate, Msr_Qty, UnitPrice) **Purchase**(ProdID, Billno, QTY_Purchased) **Payment**(PaymentID, date_payment, Payment_mode, status).	
9	Devise the guidelines for better query design.	
10	Explain data transformation functions.	
11	Analyze the integration of data warehousing with Big data.	
	SECTION D – K5 (CO4)	
	Answer any ONE of the following	**(1 x 15 = 15)**
12	Summarize DDL commands and DML commands in SQL with example.	
13	Compare the different data warehouse architectures.	
	SECTION E – K6 (CO5)	
	Answer any ONE of the following	**(1 x 20 = 20)**
14	Infer views. Compile the advantages of views. Formulate the criteria for complex views. Devise the possible database operations on views. Justify the usage of 'WITH CHECK OPTION' with example.	
15	Express the tuning schemes of databases for better performance.	

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