

STELLA MARIS COLLEGE (AUTONOMOUS), CHENNAI – 600 086
(For Candidates admitted during the academic year 2023-2024 and thereafter)

B.C.A. DEGREE EXAMINATION – NOVEMBER 2024
THIRD SEMESTER

COURSE : MAJOR CORE
PAPER : FUNDAMENTALS OF DATABASE MANAGEMENT SYSTEMS
SUBJECT CODE : 23CS/MC/FD34
TIME : 3 HOURS **MAX. MARKS: 100**

Q. No.	SECTION A (20 x 1 = 20) Choose the correct answer	CO	KL
1.	_____ are unsophisticated users who interact with the system by invoking one of the application programs that have been written previously. a. Application programmers b. Sophisticated users c. Naive users d. Specialized users	CO1	K1
2.	Rows of a relation are known as the _____. a. degree b. tuples c. entity d. All of these	CO1	K1
3.	The term "TCL" stands for _____. a. Ternary Control Language b. Transmission Control Language c. Transaction Central Language d. Transaction Control Language	CO1	K1
4.	_____ represents entity sets. a. Ellipses b. Rectangles c. Diamonds d. Lines	CO1	K1
5.	In order to maintain the consistency during transactions database provides _____ property. a. commit b. atomicity c. flashback d. retain	CO1	K1
6.	The expression _____ produces a relation containing those tuples in R but not in S. a. $R + S$ b. $R - S$ c. $R \times S$ d. $R \pi S$	CO2	K2
7.	A _____ is a special kind of a stored procedure that executes in response to certain action on the table like insertion, deletion or updation of data. a. Triggers b. Procedures c. Functions d. None of these	CO2	K2
8.	A relation schema R is in _____ normal form, if the domains of all attributes of R are atomic. a. First b. Second c. Third d. BCNF	CO2	K2
9.	A system is in a _____ state if there exists a set of transactions such that every transaction in the set is waiting for another transaction in the set. a. Idle b. Waiting c. Deadlock d. Ready	CO2	K2
10.	A transaction successfully completes its execution is said to be _____. a. saved b. loaded c. rolled back d. committed	CO2	K2

	Fill in the blanks		
11.	_____ is a collection of conceptual tools for describing data, data relationships, data semantics, and data constraints.	CO1	K1
12.	_____ schemas defines a view or views of the database for particular users.	CO1	K1
13.	An entity set that does not have a primary key is known as _____ entity set.	CO1	K1
14.	_____ data model organizes the data in the form of tables and relations.	CO1	K1
15.	_____ of ER diagram correspond to columns of a table._____.	CO1	K1
16.	Cartesian product in relational algebra is _____ Operator.	CO1	K2
17.	A virtual relation is also known as_____.	CO1	K2
18.	_____ in PL/SQL is a pointer to a context area that stores the result set of a query.	CO1	K2
19.	_____ deals with interleaved execution of more than one transaction.	CO1	K2
20.	In order to undo the work of transaction after last commit _____ command is used.	CO1	K2
Q. No.	SECTION B (4 x 5 = 20)	CO	KL
21.	a) Classify the workers behind the scene in DBMS. (or) b) Identify the characteristics of Database Approach.	CO3	K3
22.	a) Make use of the Integrity Constraints in a Database and explain how it is used. (OR) b) Model the Weak Entity Set with a suitable example for weak entity.	CO3	K3
23.	a) Analyze the working of insert and update commands in SQL. (OR) b) Examine the basic use of Unary Relational operation in SQL.	CO4	K4
24.	a) Examine the data types and its usage in PL/SQL (OR) b) Examine the desirable properties of transactions.	CO4	K4
Q. No.	SECTION C (5 x 12 = 60)	CO	KL
25.	a) Show with a neat diagram the centralized and client/server architecture of DBMS. Explain. (OR) b) Show the Database Architecture with a neat diagram and Explain.	CO1	K1

26.	a) Illustrate the ER Diagram for online shopping. (OR)	CO2	K2
	b) Illustrate the Entity Set and different types of Attributes with suitable example.	CO2	K2
27.	a) Identify the use of Views with a suitable example. (OR)	CO3	K3
	b) Classify and explain the types of Joins with example.	CO3	K3
28.	a) Explain first, second and third normal forms with suitable example. (OR)	CO5	K5
	b) Elucidate the types of Triggers.	CO5	K5
29.	a) Elaborate on Union, Intersect and Minus in SQL. (OR)	CO5	K6
	b) Discuss the PL/SQL Architecture with diagram.	CO5	K6
