BATCH 1 SET B

SRM Institute of Science and Technology
College of Engineering and Technology
School of Computing

SRM Nagar, Kattankulathur – 603203, Chengalpattu District, Tamilnadu

Academic Year: 2022-2023 (EVEN SEM)

Answer Key

Test: CLAT-1 **Date: 15/02/2023**

Course Code & Title: 18CSC303J & DATABASE MANAGEMENT SYSTEMS **Duration:** 50min

Year & Sem: III & VI **Max. Marks:** 25

Instruction: MCQs to be collected within first 10 minutes

Course Articulation Matrix:

S.No.	Course Outcome	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
1	CO1	H	M	L									

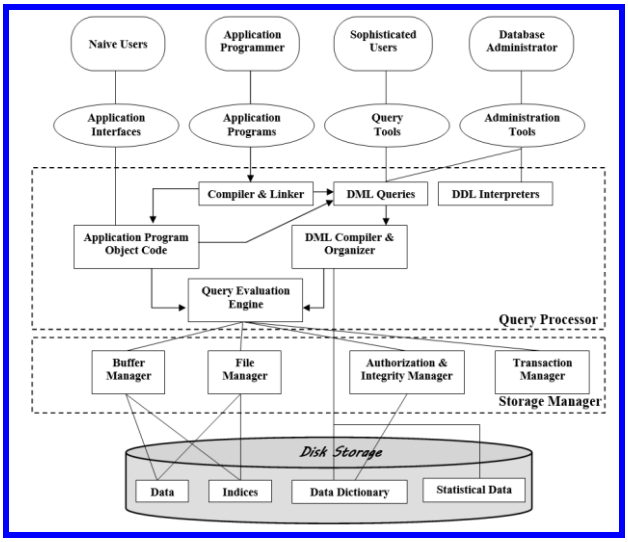
Part – A
(5 x 1 = 5 Marks)

Instructions: Answer all

Q. No	Question	Marks	BL	CO	PO	PI Code
1	Field is otherwise called as ..... of the record A. **data item** B. data type C. value D. variable	1	2	1	1	1.6.1
2	Which of the following is not a characteristic of a relational database model? A. Table B. **Tree like structure** C. Complex logical relationship D. Records	1	2	1	1	1.6.1
3	The logical design, and the snapshot of the data at a given instant in time is known as A. Instance & Relation B. Relation & Schema C. Domain & Schema D. **Schema & Instance**	1	1	1	1	1.6.1
4	The..... is used for creating and destroying table, indexes and other forms of struct Given relations r(w, x) and s(y, z), the result of select distinct w, x from r, s is guaranteed to be same as r, provided A. r has no duplicates and s is non-empty B. r and s have no duplicates C. **s has no duplicates and r is non-empty** D. r and s have the same number of tuples	1	1	1	1	1.6.1
5	Consider a database table T containing two columns X and Y each of type integer. After the creation of the table, one record (X=1, Y=1) is inserted in the table. Let MX and MY denote the respective maximum values of X and Y among all records in the table at any point in time. Using MX and MY, new records are inserted in the table 128 times with X and Y values being MX+1, 2*MY+1 respectively. It may be noted that each time after the insertion, values of MX and MY change. What will be the output of the following SQL query after the steps mentioned above are carried out? SELECT Y FROM T WHERE X=5; A. **31** B. 55 C. 15 D. 63	1	1	1	1	1.6.1

Part – B **(2 x 4 = 8 Marks)** **Instructions: Answer any 2**						
6	**Create an employee table, consist of rowno / S.No, EmpId. Write the SQL queries to get the alternate records (odd and even) from the table.** To fetch the odd numbers then the following query can be used: SELECT EmpId from (SELECT rowno, EmpId from Emp) WHERE mod(rowno,2)=1; To fetch the even numbers, then the following query can be used: SELECT EmpId from (SELECT rowno,EmpId from Emp) WHERE mod(rowno,2)=0;	**4**	**3**	**1**	**2**	**2.7.2**
7	Suppose you want to build a video site similar to YouTube. Consider the disadvantages of keeping data in a file-processing system and discuss the relevance of each of these points to the storage of actual video data and to metadata about the video, such as title, the user who uploaded it, tags, and which users viewed it. Data redundancy and inconsistency, Difficulty in accessing data, Data isolation – 2 marks Concurrent access by multiple users, Security problems – 2 marks	**4**	**3**	**1**	**1**	**1.6.1**
8	A company stores customer information in a database. The company's sales and customer service departments both use this database to access and update customer information. The company is planning to change its database management system to a new one that uses a different storage format. How would data independence help in this scenario and brief them? Data independence, Need of data independence – 2 marks Types of data independence with its explanation, Difference between the types-2 marks	**4**	**3**	**1**	**2**	**2.6.1**
Part – C **Answer all (1 x 12 = 12 Marks)**						
9	Imagine you are the lead database administrator for a large e-commerce website that receives millions of customer orders every day. Your job is to design a database system architecture that can handle the high volume of transactions efficiently and reliably. How would you design the database system architecture to meet these requirements? Illustrate with system architecture diagram and explain the various	**12**	**4**	**1**	**3**	**3.6.2**

components.



Architecture diagram (6 marks)

Explanation of components with relevant to context(6 marks)

Course Outcome (CO) and Bloom's level (BL) Coverage in Questions