VR20 Reg. No: | | | | | | | | | | |

VELAGAPUDI RAMAKRISHNA

SIDDHARTHA ENGINEERING COLLEGE

(AUTONOMOUS)

III/IV B.Tech. DEGREE EXAMINATION, DECEMBER - 2023

Fifth Semester

COMPUTER SCIENCE AND ENGINEERING

20CS5301 DATABASE MANAGEMENT SYSTEMS

Time: 3 hours ***Max. Marks: 70***

Part-A is compulsory

Answer One Question from each Unit of Part - B

Answer to any single question or its part shall be written at one place only

PART-A

10 x 1 = 10M

1.	a.	Differentiate between simple and complex views.	**(CO1 K2)**
	b.	What is an instance?	**(CO1 K1)**
	c.	When is a transaction rolled back?	**(CO4 K2)**
	d.	Write the syntax of ALTER and DROP commands.	**(CO3 K1)**
	e.	What are the operations of DML?	**(CO3 K1)**
	f.	What are the 2 elements in 2- tier architecture of DBMS?	**(CO1 K2)**
	g.	What is multi valued dependency?	**(CO3 K1)**
	h.	If we decompose a relation R=(A,B,C) into R1(A,B) and R2=(B,C).Show that the decomposition is lossless.Initial FD s of relation R are : A->B , B->C.	**(CO3 K3)**
	i.	What is a superkey ? Give an example.	**(CO2 K1)**
	j.	Differentiate drop and delete commands.	**(CO2 K2)**

PART-B

4 x 15 = 60M

UNIT-I

2. a. Compare and contrast the DBMS and traditional File Systems. **(CO1 K2) 7M**

   b. Explain all the levels of Data Abstraction. **(CO1 K2) 8M**

(or)

3. a. Draw the 3 -tier architecture of DBMS and Illustrate the different levels. **(CO1 K1) 6M**

   b. Describe the use of query processor and explain all the components of query processor. **(CO1 K2) 9M**

UNIT-II

4. a. Construct an E-R diagram for university database consisting of four entities
   i) Student ii) Department iii) Class
   iv) Faculty
   mention the cardinality ratio for relationships. **(CO2 K3) 9M**

   b. State and explain different relationships with an example. **(CO2 K1) 6M**

(or)

5. a. Describe the alteration of tables and views. **(CO3 K2) 7M**

   b. Differentiate the strong and weak entity with an example entity set. **(CO3 K2) 8M**

UNIT-III

6. a. What is a relation? Describe relational model. **(CO3 K1) 7M**

   b. Discuss all the steps involved in converting an E -R diagram to a relation. **(CO3 K2) 8M**

(or)

7. a. What is decomposition? How does it solves the problem of redudancy? **(CO4 K2) 7M**

   b. Describe how to enforce key constraints and referential integrity constraints in SQL. **(CO3 K2) 8M**

UNIT-IV

8. a. What are the properties of a transaction? Explain all with an example. **(CO4 K1) 6M**

   b. Discuss the problems that could occur with the conflict operations. **(CO4 K2) 9M**

(or)

9. a. Examine two-phase locking techniques for concurrency control with an example. **(CO4 K4) 10M**

   b. Describe shadow paging with an example. **(CO4 K1) 5M**

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