P P SAVANI UNIVERSITY

Third Semester of BSC_IT. Examination

December 2022

SSIT2070 Database Management System

03.12.2022, Saturday **Time: 10:00 a.m. To 12:30 p.m.** **Maximum Marks: 60**

Instructions:

1. The question paper comprises of two sections.
2. Section I and II must be attempted in separate answer sheets.
3. Make suitable assumptions and draw neat figures wherever required.
4. Use of scientific calculator is allowed.

SECTION – I

			CO	BTL
Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	**[05]**		
(i)	Which of the following operator can be used with a multiple-row subquery? a) = b) BETWEEN c) NOT IN d) <>		**3**	**3**
(ii)	In Hierarchical model records are organized as a) Graph b) List c) Links d) Tree		**1**	**2**
(iii)	Aggregate functions are functions that take a _____ as input and return a single value. a) Collection of values b) Single value c) Aggregate value d) Both a & b		**3**	**1**
(iv)	Which statement is used to get all data from the student table whose name end with a? a) SELECT * FROM student WHERE name LIKE '%a%'; b) SELECT * FROM student WHERE name LIKE 'a%'; c) SELECT * FROM student WHERE name LIKE '_a%'; d) SELECT * FROM student WHERE name LIKE '%a';		**3**	**5**
(v)	_____command is used to remove a relation from an SQL?		**1**	**1**
(vi)	What is Foreign Key.		**2**	**1**
(vii)	What is Truncate Function.		**3**	**1**
Q - 2 (a)	Explain DDL and DCL command with example	**[05]**	**2**	**4**
Q - 2 (b)	Explain primary key and foreign key constraints.	**[05]**	**2**	**2**
	OR			
Q - 2 (a)	Explain data Independency with diagram.	**[05]**	**1**	**1**
Q - 2 (b)	Explain the insert, update and delete with examples.	**[05]**	**3**	**2**
Q - 3 (a)	Explain with example Group by, Having and Order by clause.	**[05]**	**3**	**2**
Q - 3 (b)	What is join? Explain two type of SQL Join.	**[05]**	**3**	**5**
	OR			
Q - 3 (a)	Explain any three Relational Algebra.	**[05]**	**1**	**1**
Q - 3 (b)	Explain following terms with example: SUM, MAX, AVG, COUNT	**[05]**	**3**	**4**
Q - 4	Attempt Any five question. Write the queries of following questions from the given schema table: Worker (Worker_ID, First_Name, Last_Name, Salary, Department) Title (Worker_Ref_ID, Worker_Title) **1.** Write an SQL query to print all Worker details from the Worker table order by FIRST_NAME Ascending. **2.** Write an SQL query to print details for Workers with the first name as "Vipul" and "Satish" from Worker table.	**[05]**	**3**	**6**

3. Write an SQL query to print details of Workers with DEPARTMENT name as "Admin".

4. Write an SQL query to fetch the count of employees working in the department 'Admin'.

5. Write an SQL query to fetch the no. of workers for each department in the descending order.

6. Write an SQL query to fetch worker records having salary between 25000 to 50000.

7. Write an SQL query to fetch the list of worker name start with 'H'.

SECTION – II

Q - 1	MCQ/Short Question/Fill in the Blanks (Any Five)	**[05]**		
(i)	Define normalization.		**1**	**1**
(ii)	Give the full form of BCNF.		**1**	**1**
(iii)	What is Functional Dependency?		**1**	**2**
(iv)	Define transaction.		**1**	**1**
(v)	What is an Attribute?		**1**	**1**
(vi)	Define Join in SQL.		**1**	**1**
(vii)	Define weak entity set.		**1**	**1**
Q - 2 (a)	Discuss ACID properties of DBMS transaction.	**[05]**	**2**	**1**
Q - 2 (b)	Discuss Entity-Relationship Model in detail.	**[05]**	**3**	**1**
	OR			
Q - 2 (a)	Explain three concurrency control problem.	**[05]**	**1**	**4**
Q - 2 (b)	Discuss 2NF and 3NF of database.	**[05]**	**3**	**2**
Q - 3 (a)	Explain two-phase locking protocol in detail.	**[05]**	**1**	**3**
Q - 3 (b)	Explain transaction states of processing.	**[05]**	**1**	**6**
	OR			
Q - 3 (a)	Discuss generalization, specialization and aggregation.	**[05]**	**3**	**1**
Q - 3 (b)	Discuss trivial and non-trivial functional dependencies.	**[05]**	**1**	**2**
Q – 4	Attempt any one.	**[05]**		
(i)	Discuss various components of E-R diagrams.		**1**	**4**
(ii)	What is deadlock? Explain with example.		**3**	**1**

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CO : Course Outcome Number BTL : Blooms Taxonomy Level

Level of Bloom's Revised Taxonomy in Assessment

1: Remember	2: Understand	3: Apply
4: Analyze	5: Evaluate	6: Create