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Vellore Institute of Technology

(Deemed to be University under section 3 of UGC Act, 1956)

Continuous Assessment Test-I – January '23

Programme	:	B.Tech CSE	Semester	:	Win Sem(2022-23)
			Code	:	BCSE302L
Course Title	:	Database Systems	Class Nbr(s)	:	CH2022235000582 CH2022235000583 CH2022235000584 CH2022235000585 CH2022235000586 CH2022235000587
Faculty (s)	:	Dr. Janani S M Dr. Leninisha Shanmugam Dr. Rishikeshan CA Dr. Tamilarasi K Dr. Brindha Dr. Jaisakthi S M	Slot	:	B1+TB1
Time	:	90 Mins	Max. Marks	:	50 marks

Answer all the Questions

1.	Assume you are a database administrator for a marketing company. The creation and maintenance of a massive database are required by the business. The corporation has given you a number of duties, including database design, implementation, and management. Draw a clear diagram and consider how the three levels of the three-schema architecture relate to the responsibilities and duties of the database administrator.	10
2.	Answer the following questions: i) Compare and contrast file Systems with database systems. [4 Marks] ii) How the 3-tier architecture can be utilized to implement a web based online digital library. [3Marks] iii) Provide a suitable example from web based online digital library for Physical data independence and Logical data independence. [3Marks]	10
3.	Examine the relational schemas given below and present the SQL queries for the following questions. (5*2= 10 marks)	10

Employee relation	
Empnumber	
Empname	not null
mobilenumber	not null

Course relation	
Coursecode	Primary key
Coursename	unique
empno	Foreign key

a) Consider the Employee relational schema given above, give the SQL query to

create table with given constraints, use appropriate data type.

b) Present the suitable SQL Query to set the Empnumber attribute as primary key in an existing employee relation.

c) Give the SQL Query to add a new attribute salary in the existing employee relation. Salary attribute should accept values only between 30000 and 40000, set the constraints accordingly.

d) Consider the course relation, and present the SQL query to create the above relation, where the empno is the foreign key with cascade deletion and it refers to the Empnumber in the employee relation.

e) Give the SQl query to drop the unique constraint associated with course name attribute in the course relation.

4. In a small multispecialty hospital there are doctors specialized in different departments. The hospital wants to automate and maintain the database of doctors, patients visiting the doctor, patients' history and the prescribed medicine. Assume you are a database designer and design a high level conceptual data model and represent the model with neat ER diagram. **10**

5. Map the following ER diagram to Relational Schema with proper explanation. Specify all the constraints associated with each relation. **10**