

Reg. No.:

Name :

**VIT**Vellore Institute of Technology
(Deemed to be University under section 3 of UGE Act, 1956)**Continuous Assessment Test-I – January '23**

Programme	: B.Tech CSE	Semester	: Win Sem(2022-23)
Course Title	: Database Systems	Code	: BCSE302L
Faculty (s)	: Dr. Janani S M Dr. Leninisha Shanmugam Dr. Rishikeshan CA Dr. Tamilarasi K Dr. Brindha Dr. Jaisakthi S M	Class Nbr(s)	: CH2022235000588 CH2022235000589 CH2022235000590 CH2022235000591 CH2022235000592 CH2022235000593
Time	: 90 Mins	Slot	: B2+TB2
		Max. Marks	: 50 marks

Answer all the Questions

1. ABC software company is currently working on a project to create an user interface and a database to store information in an organized manner, for a famous hill resort at Ooty. Distinguish various database users and their roles related to this Resort database. Also, mention the need for using DBMS based approach for managing the Resort details.

2. In a small multispecialty hospital, there are doctors specialized in different departments. The hospital maintains the information about doctors, patients visiting the doctor, patients' history and the prescribed medicine in a file system. Assume you are a database designer and try to convince the hospital authority to automate the existing system by explaining the drawbacks of the existing system and advantages of automating the system. (6 Marks)

3. If you want to develop a web-based Library system for lending e-books, what kind of database utilities and tools and their functions do you require. (4 Marks)

4. Create the following tables and apply constraints as follows:

Books Table: isbn – primary key, qty – not null

Authors Table: authorId – primary key, email - unique

Book_Authors: isbn – foreign key references books table, authorId – foreign key references authors table

Write SQL Queries for the following:

1. Add unique constraint to title in books table.

2. Modify the not null constraint in price attribute in books table and set the check constraint so that value is greater than 0.0.

3. Set a default value of qty in books table as 0.

4. Remove the unique constraint for email attribute in authors table.

5. Drop a primary key [after referenced foreign key is dropped].

Database: mybookstore

Table: books
isbn: INT
title: VARCHAR(50)
price: FLOAT
qty: INT

Table: books_authors
authorID: INT
isbn: INT

Table: authors
authorID: INT
name: VARCHAR(30)
email: VARCHAR(30)

isbn	title	price	qty
1001	Java for Dummies	11.11	11
1002	Only Java	22.22	22
1003	Java ABC	33.33	33
1004	Java 123	44.44	44

authorID	isbn
1	1001
2	1001
3	1001
1	1002
3	1002
2	1003
2	1004

authorID	name	email
1	Tan Ah Teck	teck@nowhere.com
2	Mohamed Ali	ali@somewhere.com
3	Kumar	kumar@abc.com
4	Kelvin Jones	kelvin@xzy.com

VIT University Chennai campus wants to set up a new database to record the details of all the VIT staff employees and the details about the departments they are works in. They intend to record the following information.

- For each staff member: his or her staff ID, name, job title, and salary.
- For each department: the department name and address.
- For each staff member: all departments' details they belong to. It is required that every member of staff belongs to at least one department.
- Kids' information of each staff: kid's name, kid's age.
- For each department, there should be a head of the department. It is required that each department has exactly one head of the department.

Draw an ER diagram that expresses the requirements for the above database. Make sure that you capture all the constraints on the data mentioned above.

Examine the given ER diagram for an online shopping application and present the relational schema for the same. Detail the steps used to convert the given ER diagram into relational schema.

- Step wise conversion with explanation for the given ER Diagram-
- Relational schema results-

