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INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)
(Dundigal-500043, Hyderabad)

B.Tech VII SEMESTER END EXAMINATIONS (REGULAR/SUPPLEMENTARY) - DECEMBER 2022

Regulation:R18

ADVANCED DATABASES

Time: 3 Hours

(Common to CSE|IT)

Max Marks: 70

Answer FIVE Questions choosing ONE question from each module

All Questions Carry Equal Marks

All parts of the question must be answered in one place only

MODULE – I

1. (a) Discuss in detail integrity management in active databases. Give suitable examples of using recursive rules. [BL: Understand| CO: 1|Marks: 7]
- (b) The following data in Table 1 gives the structure of the countries. [BL: Apply| CO: 1|Marks: 7]

Table 1

Field	Type	Key
Country_ID	Varchar(2)	Primary
Country_Name	Varchar(40)	Null
Region_ID	Int	Null

- i) Write a SQL statement to create the above table “countries”.
 - ii) Write a SQL statement to insert 3 rows.
 - iii) Write a SQL statement to modify the datatype of field country_Name from varchar(40) to varchar(35).
 - iv) Write a SQL statement to add a new field “Capital” type varchar(25) and key Null.
2. (a) List and explain the different types of applications of active databases in detail. [BL: Understand| CO: 1|Marks: 7]
 - (b) Create the following relational schema: COLLEGE(Reg_No, S_Name, S_Year) HOSTEL (H_Reg_No, H_Stu_Name, H_Room_No, H_DeptName, H_Year) A rule that, student every year studies can check and modified, verifies their completion, deletes all the students who are going to complete studies. [BL: Analyze| CO: 1|Marks: 7]

MODULE – II

3. (a) Summarize about temporal database and mention clearly which data to store in temporal database. [BL: Understand| CO: 2|Marks: 7]
- (b) Write a standard CRUD operations to define at entity level structure and various operations of object oriented query language. [BL: Apply| CO: 2|Marks: 7]

4. (a) Recall the object relational features in SQL. Summarize the different approaches used for object oriented databases. [BL: Understand| CO: 2|Marks: 7]
- (b) Create a three axes timing table using valid time, decision time, and transaction time for real-world events that occurred between the United States presidential elections of 1964 and 1976. [BL: Apply| CO: 2|Marks: 7]

MODULE – III

5. (a) Outline about query optimization. Explain any two optimization techniques in detail with suitable example. [BL: Understand| CO: 3|Marks: 7]
- (b) Mention clearly the need of logic in complex query languages. Determine the logic of accessing employee detail those are get net salary of more then 1,00,000. [BL: Apply| CO: 3|Marks: 7]
6. (a) Elucidate the rule rewriting methods. Explain the spatial database with data types and relationships. [BL: Understand| CO: 4|Marks: 7]
- (b) Compare and construct in detail about non-recursive program and recursive predicates using compilation and optimization. [BL: Understand| CO: 4|Marks: 7]

MODULE – IV

7. (a) Illustrate the sub pattern matching and sketch the approach - ST-Index with suitable example. [BL: Understand| CO: 5|Marks: 7]
- (b) Analyze the concept of multimedia indexing method. Discuss about 1-D time series with suitable example. [BL: Apply| CO: 5|Marks: 7]
8. (a) Explain spatial data management. Discuss the various indexing techniques of spatial data management system. [BL: Understand| CO: 5|Marks: 7]
- (b) Consider the following data: Country(name: String, pop: number, boundary: POLYGON) where for each country, we record its name, population, and boundary. Also assume that country name is a primary key. Write an SQL-like quarry language for”. Find all the names of countries that are neighbors of the United Kingdom (UK)”. [BL: Apply| CO: 5|Marks: 7]

MODULE – V

9. (a) List and explain different models of uncertainty in temporal database and lattice-based approaches. [BL: Understand| CO: 6|Marks: 7]
- (b) Classify the types of probabilistic relational databases and explain how to convert the probabilistic tuples to annotated tuples? [BL: Understand| CO: 6|Marks: 7]
10. (a) Write about the uncertainty database in null-value. Describe the concept of uncertainty in image database with suitable examples. [BL: Understand| CO: 6|Marks: 7]
- (b) Create a table using the attributes (File, Person, LB, UB, and Salary) and Find all Pictures of people making over \$100,000 per year where the pictures correctly identify the person in question with over 70% probability [BL: Apply| CO: 6|Marks: 7]

