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|  | InSem Examination-II Summer 2024   |                        |  |
|  | Exam Seat No.:   |                        |  |
|  | Academic Year: 2023-2024   | Semester: IV           |  |
|  | Name of Programme: S.Y. B.Tech. Artificial Intelligence and Data Science   | Pattern: 2022          |  |
|  | Name of Course: Database Management System   | Course Code: ADS222014 |  |
|  | Max. Marks: 30   | Duration: 1 Hr.        |  |
|  | <b>Instructions:</b> Candidates should read carefully the instructions printed on the Question Paper and on the cover page of the Answer Book, which is provided for their use.<br><br>1. This question paper contains TWO pages.<br>2. Answer to each new question is to be started on a new page.<br>3. Assume suitable data wherever required, but justify it.<br>4. Draw the neat labelled diagrams, wherever necessary.<br>5. The last column indicates the Course Outcome and level of Blooms Taxonomy of the Question/sub-question. |                        |  |

**Question No. 1 Attempt following Question**

- a) **What is the purpose of DBMS? What are the advantages of DBMS over file processing systems?** (5) CO1

**OR**

- b) **What are the different types of database users? Mention any five applications of DBMS.** (5) CO1

- c) **What are Integrity constraints in DBMS? Explain Primary key and check constraints used in SQL.** (5) CO1

**OR**

- d) **What are the data models of DBMS? Explain any two types of data model.** (5) CO1

- e) **What is DDL? Explain with structure the use of following DDL commands .** (5) CO1  
**i. Create ii. Alter iii. Drop**

**OR**

- f) **What is relational algebra? Explain the fundamental operator used in relational algebra.** (5) CO1

**Question No. 2 Attempt following Question**

- a) **Identify the type of join clause in SQL which returns all the rows of the participating tables that satisfy the join conditions and also rows not satisfying the join conditions. Explain with any one suitable example.** (5) CO2

OR

- b) Consider the following relational schema (5) CO2

person (driver-id, name, address)

car (license, model, year)

accident (report-number, date, location)

owns (driver-id, license)

participated (driver-id, car, report-number, damage-amount)

Solve the following queries in SQL

i. Update the damage amount for the car with report number “AR2197” to 3000.

ii. Display the names of the drivers in alphabetical order.

iii. Display the model of the cars whose model starts with the letter ‘S’.

iv. find the total number of accidents that occurred in the ‘Nashik’ location.

- c) What are triggers? How to create triggers in SQL? (5) CO2

OR

- d) What are called procedures? How to create a procedure in SQL? (5) CO2

- e) What is the purpose of creating views in SQL? Explain with a suitable example. (5) CO2

OR

- f) What are the different aggregate functions used in SQL? Explain with suitable sql query for each aggregate function. (5) CO2

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