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TM241765H

Reg. No :.....

Name :.....

MASTER'S DEGREE (C.S.S) EXAMINATION, NOVEMBER 2024

2024 ADMISSIONS REGULAR

SEMESTER I - CORE COURSE Applied Statistics and Data Analytics

ST1C05TM - Database Management System

Time : 3 Hours **Maximum Weight : 30**

Part A

I. Answer any Eight questions. Each question carries 1 weight **(8x1=8)**

1. Explain data abstraction in DBMS.
2. Explain Cartesian Product Operation in Relational Algebra.
3. Explain Super Key and Primary Key.
4. Explain each keys related with each Normal forms.
5. Define referential integrity constrain. Illustrate with an example.
6. Explain Fully Functional Dependency with an example.
7. Describe constructor functions in object oriented database.
8. Briefly explain Object-relational mapping.
9. Explain Hash Partitioning.
10. Discuss i/o parallelism.

Part B

II. Answer any Six questions. Each question carries 2 weight **(6x2=12)**

11. Explain different types of attributes in ER model.
12. Describe schema in RDBMS.
13. Consider Employee database with following schema: Employee(Emp_Id,First_Name,Last_Name,Salary,Joining_date,Department) Bonus(Emp_Ref,Bonus_Amount,Bonus_date) Designation(Emp_Ref_Id,Emo_Designation,Affected_From) Write queries in SQL for the following requirements :- i) To fetch the departments that have less than five people in it. ii) To print the name of employees having the highest salary in each department. iii) Write an SQL query to print details of the employee who are also Managers.
14. Explain Functional Dependencies in a relational schema.
15. Discuss about array in Object oriented database.
16. Describe components of Object-Oriented Database Model.
17. Describe different data warehouse schemas.
18. Differentiate homogeneous and heterogeneous database.

Part C

III. Answer any Two questions. Each question carries 5 weight **(2x5=10)**

19. Discuss different DBMS Models.
20. Explain different DDL Query statements in SQL. Explain with Syntax and Example schema.
21. Explain Object Oriented Programming Paradigm.
22. Explain Clustering technique and discuss K Means Algorithm.