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Name.....

Reg. No.....

**THIRD SEMESTER M.Sc. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, NOVEMBER 2023**

(CBCSS)

Computer Science

CSS 3C 11—ADVANCED DATABASE MANAGEMENT SYSTEMS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Section A (Short Answer)*Answer any four questions.**Each question carries 2 weightage.*

1. What is data independence ? Outline different types of data independence.
2. Why database system is superior than file-based system ?
3. What is Boyce Codd normal form?
4. What is a View ? Where do we use it ?
5. Explain the usage of GROUP BY and HAVING clause with syntax and examples.
6. List the ACID properties of a transaction.
7. List the advantages and disadvantages of OODBMS.

(4 × 2 = 8 weightage)

Section B (Short Essay)*Answer any four questions.**Each question carries 3 weightage.*

8. Summarize the features of the different data models.
9. Outline the integrity constraints with examples.
10. Analyze the anomalies in database.
11. Demonstrate commands to create a *Table*, *delete a table*, *modify the structure of a table* and *update a table* with examples.

Turn over

12. Illustrate the concepts *serializability* and *recoverability* with examples.
13. Explain the implementation of triggers. Give the syntax of “create trigger”.
14. Outline Commit protocols for distributed databases.

(4 × 3 = 12 weightage)

Section C (Essay)

Answer any **two** questions.

Each question carries 5 weightage.

15. What is an ER diagram ? Explain the structure of ER diagram with example. Explain with example the reduction of an ER Schema to Tables.
16. Discuss Project Join Normal Form and domain key normal form with examples.
17. Consider the following schema :

EMPLOYEES (Employee_Id, First_Name, Last_Name, Email, Phone_Number, Hire_Date, Job_Id, Salary, Manager_Id, Department_Id)

Write query for the following :

- (i) Find out the employee id, names, salaries of all the employees.
 - (ii) Find the names of the employees who have a salary greater than or equal to 4800.
 - (iii) List the Employee_id and first name of employees with “gmail” in their Email.
 - (iv) List out the employees who works under manager 100.
 - (v) List the Employees whose hire date is earlier than 01.01.2010.
18. Discuss concurrency control schemes.

(2 × 5 = 10 weightage)