

2011000604040001
EXAMINATION FEBRUARY-MARCH 2024
B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE)
(FOURTH SEMESTER)
RELATIONAL DATABASE MANAGEMENT SYSTEM - I
LEVEL 4

[Time: As Per Schedule]

[Max. Marks: 70]

Instructions:

1. Fill up strictly the following details on your answer book

- a. Name of the Examination: **B. SC. (I. T.) (M. SC. (I. T.) 5 YEAR INTEGRATED COURSE) (FOURTH SEMESTER)**
 - b. Name of the Subject: **RELATIONAL DATABASE MANAGEMENT SYSTEM – I - LEVEL 4**
 - c. Subject Code No: **2011000604040001**
2. Sketch neat and labelled diagram wherever necessary.
3. Figures to the right indicate full marks of the question.
4. All questions are compulsory.

Seat No:

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Student's Signature

Q.1 A) Create an EER diagram for online movie ticket booking system. Assume that only one theatre is considered for movie ticket. The customer can make payment with any available methods. Use specialization/generalization concept for one entity. **9**

B) Answer following questions [Any three] **9**

- 1) What is the impact of on delete cascade constraint?
- 2) Explain the use of having condition in group by clause?
- 3) Explain transitivity and reflexivity rules of armstrong's axiom with an example.
- 4) Explain user_constraints table.

Q.2 Answer the following questions in brief [Any Six]

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- 1) Write a relational algebra based query for listing female employee detail having salary more than 50000 from employee table.
- 2) Explain any three numeric SQL functions with example.
- 3) Explain multi valued dependency?
- 4) What is NOT NULL constraint?
- 5) What is transitive functional dependency?
- 6) How to give check constraint? Explain with example.
- 7) Explain trivial and non-trivial functional dependency.
- 8) Explain aggregation concept of EER diagram.

Q.3 Attempt any THREE questions in detail,

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- 1) Explain inner join and outer join with example in detail.
- 2) What are the different ways to give primary key and foreign key in a table?
- 3) Explain the steps of query processing. How query optimization works?
- 4) What is 3NF? What are the necessary condition for a relation to be in 3NF? Explain the process of converting 2NF relation to 3NF with example.

Q.4 A) Answer following questions [Any Three]

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- 1) Explain multiple row sub query with example.
- 2) Explain any three codd's rule for RDBMS
- 3) Explain following errors: 'parent key not found', 'table or view already exists'
- 4) What is the difference between read only view and updatable view?

B) Create following tables with primary and foreign key. 3

STUD (STUDIId, Name, City, stream) MARKS (STUDIId, Sub1Mark, Sub2Mark)

C) Solve the queries based on above tables 4

- 1) Find the student detail who have secured highest marks in subject2
- 2) Count the total number of students for each stream (science, commerce)
