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OR

What is serializability? Explain .

Unit - V

5. a) Give basic idea of RAID.
   b) What are object oriented databases?
   c) Explain network model.
   d) What is data mining and two does data mining technology relate to data ware housing technology.

OR

Describe organization of records in files. Also discuss indexing.

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Roll No .....

MCA - 202

MCA. II Semester

Examination, June 2015

Data Base Management System

Time : Three Hours

Maximum Marks : 70

Note: i) Answer five questions. In each question part A, B, C is compulsory and D part has internal choice.
ii) All parts of each question are to be attempted at one place.
iii) All questions carry equal marks, out of which part A and B (Max. 50 words) carry 2 marks, part C (Max. 100 words) carry 3 marks, part D (Max. 400 words) carry 7 marks.
iv) Except numericals, Derivation, Design and Drawing etc.

Unit - I

1. a) What are data models?
   b) Define logical and physical data independence.
   c) Differentiate between strong and weak entity by giving suitable examples.
   d) A data base is being constructed to keep track of projects and categories of project in the department. A project has number of employees hot all of whom participating in each category. It is desired to keep track of the employees participating in each category for each project, as the positions they participated and the result of the project. Design an ER diagram and write any assumptions you make. 7

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OR

Explain the terms given below. How represented in ER diagram.

i) Strong and weak entity

ii) Aggregation

iii) Partial and total participation.

iv) Discriminator and primary keys.

Unit - II

2. a) Define the following keys.

i) Primary keys

ii) Alternate keys.

iii) Super key

b) What is union compatibility?

c) What role does the concept of foreign key play when specifying the most common types of meaningful join operations?

d) Consider the following tables with primary key (Under lined).

Employee (E NO, E name, salary, D No)

Department (D No, D name)

Project (P No, P name, D No, P location)

Workson (E No, Povo, Hours)

Formulate the following question in SQL.

i) For each project, list project name (P name) and total hours spend on the project.

ii) For E No=2315 and P No = 1704, modify hours attribute to "20-00".

iii) Write DDL statements for the above given database.

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OR

The outer join operations extend the natural join operation so that tuples from the participating relations are not lost in the result of join. Describe how that join operation can be extended so that types from left, right or both relations are not lost from the result of theta join.

Unit - III

3. a) Explain trivial functional dependency by giving examples.

b) Prove function dependency is also multivalued dependency.

c) Explain lossy decomposition and lossless decomposition.

d) Compute the closure of the following set F of functional dependency for the relation schema R = {A,B,C,D,E} :

$F = \{A \rightarrow BC, CD \rightarrow E, B \rightarrow D, E \rightarrow A\}$

List the candidate key in R. Also find canonical cover.

OR

What is Boyce - Code normal form? How does it differ from 3NF? Prove that any relation schema with two attributes is in BCNF:

Unit - IV

4. a) What are the integrity rules?

b) List ACID properties.

c) Give basic idea of distributed database.

d) What is assertion? How it is different from check and other constraints? Explain by given suitable examples.