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SEAT No. :

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[5803]-104

First Year B.B.A. (CA)

CA-104 : DATABASE MANAGEMENT SYSTEM

(CBCS 2019 Pattern) (Semester -I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *All questions are compulsory.*
- 2) *Figures to right indicate marks.*

Q1) Attempt any Eight of the following:

[16]

- a) Enlist four basic file operations.
- b) Define Data and Information.
- c) Define the term Cardinality.
- d) Explain the use of COUNT () with example.
- e) What is Insertion Anomaly?
- f) Write two categories of Data Models.
- g) Explain character data type of SQL.
- h) Define Candidate key.
- i) Write two advantages of Sequential file organization.
- j) Define Functional Dependency.

Q2) Attempt any Four of the following:

[16]

- a) Explain sequential file organization.
- b) Write a note on Data Dictionary
- c) Explain object oriented model.
- d) Explain aggregate function in SQL with example.
- e) List various DDL command. Explain any one with example.

P.T.O.

Q3) Attempt any Four of the following:

[16]

- a) Consider the following Entities and Relationships & solve the queries:

Department (dept_no, dept_name, location)

Employee (emp_no, emp_name, address, salary, designation)

Relation between Department and Employee is **One to Many**

Constraint: Primary key, salary should be > 0

- Find total salary of all computer department employees.
- Find the name of department whose salary is above 10000.

- b) Consider the following Entities and Relationships & solve the queries:

Book (Book_no, title, author, price, year_published)

Customer (cid, cname, addr)

Relation between Book and Customer is **Many to Many**.

Constraint: Primary key, price should be >0.

- Display author wise details of book.
- Display customer name that has purchased more than 3 books.

- c) Consider the following Entities and Relationships & solve the queries:

Musician (mno, mname, addr, phno)

Album (title, copy_right_date, format)

Relation between Musicians and Album is **One to Many**.

Constraint: Primary key.

- Display all albums composed by 'A R Rehman'.
- Display musician details who have composed Audio album.

- d) Consider the following Entities and Relationships & solve the queries:

Sailor (sid, sname, age)

Boats (bid, bname, color)

Relation between Sailer and Boats is **Many to Many**

Constraint: Primary key, age should be > 0 .

- Display details of all boats sailed by sailor 'Ram'.
- Display Sailor names working on blue boat.

e) Consider the following Entities and Relationships & solve the queries:

Account (ano, branchname, balance)

Customer (cust_no, cust name, street, city)

Relation between Account and Customer is **Many to Many**.

Constraint: Primary key, balance should be > 500 .

- Display customer details with balance between 100000 and 200000.
- Display customers having more than two accounts in Chinchwad branch.

Q4) Attempt any Four of the following:

[16]

- Explain dense index and sparse index.
- Explain with example the Degree of Relationship Set
- Explain the following aggregate functions:
 - SUM()
 - MIN()
- Consider the following Entities and Relationships & solve the queries:

Property (pno, desc, area, rate)

Owner (owner_name, addr, phno)

Relation between owner and Property is **One to Many**.

- Display property owned by Mr.Patil'.
- Display all properties with owner name that located in Chinchwad area.

e) Consider the following Entities and Relationships & solve the queries:

Branch (bname, bcity, assets)

Loan (loan no, amount)

Relation between Branch and Loan is **One to Many**

- Display total loan amount given by ABC branch.
- Find the name of branch that have assets located in Mumbai.

Q5) Write short notes on any Two of the following:

[6]

- a) Advantages and Disadvantages of RDBMS.
- b) Normalization
- c) Generalization in ER Modelling.

