

[Total No. of Questions :5]

SEAT No. :

[Total No. of Pages : 4]

First Year B.B.A. (CA)
CA-104 : DATABASE MANAGEMENT SYSTEM
(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) Define Candidate key
- b) What is an index?
- c) Explain the use of AVG() with example.
- d) Define Data and Information.
- e) What BCNF?
- f) Explain character data type of SQL.
- g) Define Foreign key.
- h) Write two advantages of Sequential file organization.
- i) What is logical file?
- j) What is generalized structure of SQL query?

Q2) Attempt any **Four** of the following:

[16]

- a) Explain object and physical files.
- b) Explain the Dense and Sparse Index.
- c) Explain the term Entity.
- 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:

Employee (E_no, E_name, address, city)

Loan (L_no, L_amt, L_date) Relation between Employee and Loan is **Many to Many**.

- List name of Employee who stay in city "Mumbai".
- Delete all the Employee with details with address "America".

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

Movie (movie_no, movie_name, release, year)

Actor (Act_no, Act_name).

Movie and Actor are related with many to many relationship

- Insert a row in Actor table.
- Display all the actor details of movie 'Panipat'.

c) Consider the relational algebraic expression for the following :

Supplier (S_no, S_name, S_addr)

Item (I_no, I_name, Stock)

Supp_Item (S_no, I_no, rate)

Solve the relational algebraic expression:

- Display all suppliers supply PISTON RINGS.
- List all Supplier from "Varanasi".

d) Consider the relational algebraic expression for the following :

Sailor (sid, sname, age)

Boats (bid, bname, color)

Sailor_Boat (sid, bid)

Solve the relational algebraic expression:

- Find name of all Sailors in the "blue" boat.
- Display all record of Sailor.

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

Teacher (T_no, T_name, College_name, dept)

E_Test (E_no, test_name)

Relation between Teacher and E_test is **Many to Many**.

- Give the name of teacher who have passed either "SET".
- Delete all the teacher details of physics dept.

Q4) Attempt any Four of the following:

[16]

- Explain different anomalies related with Normalization.
- Explain the select and project operations in relational algebra.
- Explain union and difference in Relational algebra with suitable example.
- Consider the following Entities and Relationships & solve the queries:

Property (pno, desc, area, rate)

Loan (L_name, L_no, addr, phno)

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

- Display property owned by Mr. Patil having Maximum rate.
- List area wise property details.

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

Patient (Pname, Pno, city, address)

Hospital (Hno, H_name, Street, H_city)

Relation between Doctor and Hospital is **Many to Many**.

- Find out all the Patient who have admitted to pune city.
- Display Patient details.

[6]

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

- Explain Normal forms.
- Generalization
- Specialization.

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