Seat No.....

Progressive Education Society's

Modern College of Arts, Science and Commerce *(Autonomous)*

Shivajinagar, Pune -5

[Total no. of questions: 04] [Total number of pages: 02]

First Year BBA (C.A.) (Mar-2020)

End Semester Examination, (2019 Pattern) Semester – II

Course Code: 19BaBbcU202 **Course Name: Data Base Management System**

Date: 17.03.2020 **Time: 10.00 a.m.-12.00 p.m.**

[Time: 2 Hours] [Max Marks: 60]

Instructions: (i) All questions are compulsory.

(ii) Neat diagram must be drawn wherever necessary.

Q.1 Answer the following questions in one sentence. (Any 10) **[10x1=10]**

1. Give syntax and example of select operator.
2. Define the term 'Cardinality'.
3. What is relationship set?
4. State various commands that come under DDL.
5. Define attributes with example.
6. What is Cartesian product operation in relational algebra?
7. Define BCNF.
8. State any two types of indices.
9. List any two advantages of DBMS.
10. Modification in table is a part of DDL statement. Justify true or false.
11. State different types of users of DBMS.
12. Explain foreign key.

Q.2 Answer the following questions. (Any 4) **[4x5=20]**

1. Write short note on data abstraction and data independence.
2. What is Indexed File Organization?
3. Write note on data model.
4. Explain union and intersection operation in relational algebra.
5. Write a short note on components of SQL.
6. Write a note on 'User of DBMS'.

Q.3 Answer the following questions. (Any 1) **[1x10=10]**

1) An IT industry is developing several projects on various domains (banking, education, inventory etc.) for many of its clients. ManyIT professionals are working on one project and an IT professional can work on many projects:
   i. Identify the entity sets, their attributes and primary keyfor each entity.
   ii. Identify the relationship set and draw an ER diagram.

2) In hotel reservation system, customer makes reservation and pays the payment. Though reservation customer books the rooms and services are provided by the employees of hotel to the customer.
   i. Identify the entity sets, their attributes and primary key for each entity.
   ii. Draw ER diagram.

Q.4 Answer the following questions. **[2x10=20]**

1) Consider the following relations,

Machine (m_no, m_name, m_type, m_cost)

Part(p_no, p_name, p_desc).

Machine and part are related with one to many relationship.

Create RDB and solve queries.

(i) Increase the cost of machine by 10%.

(ii) Delete all machines having particulars "wheel".

(iii) List all machines whose cost >1,00,000.

Or

1) Consider the following relations

Emp (eno, ename, salary, commission, designation)

Dept (dno, dname, location)

Emp and Dept are related with many to one relationship.

Create a relational database in 3NF and solve the following queries in SQL:

(i) Find out employees who are working at Aurangabad location.

(ii) Find the maximum, minimum and average salary for every designation.

(iii) Update commission for every employee by 6% who belong to botany department.

2) Consider the following relations:

Item (icode, name, price);

Order (ocode, cust-name, date)

Item-order (icode, ocode, quantity)

Solve the following queries in relational algebra:

(i) Find all items that are ordered by Amit Kumar.

(ii) Find order details of each item.

(iii) List all items ordered between 25 January 2018 to 28 January 2018

(iv) Find item names with lowest cost.

(v) List all the items with their price having ordered quantity more than 100.