

firstname, middlename, lastname, email).

List and describe the *required* and *optional* attributes. 4

(b) Give any *three* advantages of the DBMS over file systems. 6

8. (a) Describe 3NF. When is a table said to be in 3NF? Illustrate with the help of an example. 4

(b) Differentiate between centralized and distributed databases. 4

(c) Consider the following relational table: 2

STUDENT

| STD_ID | STD_NAME | Contact    | Address | City    |
|--------|----------|------------|---------|---------|
| 1      | Anil     | 9933445566 | A4      | Delhi   |
| 2      | Deepika  | 9988776655 | B12     | Mumbai  |
| 3      | Sapna    | 8899776655 | C12     | Lucknow |
| 4      | Gaytri   | 9911223344 | I12/14  | Delhi   |
| 5      | Umesh    | 9977665544 | I133/89 | Pune    |
| 6      | Shyam    | 9922334455 | B3      | Jaipur  |
| 7      | Anita    | 9933445566 | C9      | Mumbai  |

Give the output on execution of each of the following SQL commands on the table customer:

```
SELECT COUNT (DISTINCT City) FROM
STUDENT;
```

22/05/2018

This question paper contains 6 printed pages.

(Evening)

Your Roll No. ....

Sl. No. of Ques. Paper: 8176

HC

Unique Paper Code : 62341201

Name of Paper : Database Management Systems

Name of Course : B.A. (Prog.)

Computer Applications

Semester : II

Duration : 3 hours

Maximum Marks : 75

(Write your Roll No. on the top immediately  
on receipt of this question paper.)

Question No. 1 is compulsory.

Attempt any five questions from Q. Nos. 2 to 8.

1. (a) Describe different types of relationships in the context of a relational data model with the help of a suitable example. 3

(b) Differentiate DELETE and DROP SQL commands with the help of an example. 3

(c) A database consists of following relations:

EMPLOYEE(EMP\_CODE, EMP\_NAME, JOB\_CODE)

JOB (JOB\_CODE, JOB\_DES)

Identify and describe primary key and foreign key(s) in the above relations. 4

(d) Write the SQL command that will not abort the changes being made to a relational table Employee. 2

(e) Illustrate insertion anomaly with a suitable example. 3

P. T. O.

(f) What do you understand by referential integrity rule? Illustrate with the help of suitable example. 2

(g) Give an SQL command to add a new attribute Email with data type varchar (20) in the relational table Employee. 2

(h) A database consists of the relation customer:

Customer (Cust\_Code, Cust\_Name, Region\_Code, DOB, Age)

where cust\_code is the primary key and age is the derived attribute. Describe the derived attribute and also draw an ER diagram for the same. 4

(i) Refer the following table to give the output of the given SQL command on the table CUSTOMER:

```
SELECT *
FROM CUSTOMER
WHERE Cust_Age > 25 and Cust_Age < 30;
```

| CUSTOMER |           |          |
|----------|-----------|----------|
| Cust_id  | Cust_Name | Cust_Age |
| 1        | Ram       | 32       |
| 5        | Hari      | 27       |
| 2        | Kamna     | 25       |
| 7        | Suresh    | 24       |
| 3        | Rajesh    | 23       |
| 6        | Komal     | 22       |
| 4        | Chatana   | 25       |

2. (a) Describe the different components of a database system. 6

(a) PRODUCT of COURSE and MARKS

(b) DIFFERENCE OF COURSE AND MARKS

(c) UNION of COURSE and MARKS

(d) JOIN OF COURSE AND MARKS on equal course code

(e) SELECT c\_code = 'C98'

(Note : use the relation MARKS)

Relation course

| c_code | C_Name     |
|--------|------------|
| C21    | English    |
| C32    | Maths      |
| C33    | Economics  |
| C50    | Accounting |
| C56    | History    |
| C81    | M.I.S      |

Relation marks

| c_code | C_Name     |
|--------|------------|
| C21    | English    |
| C25    | E.V.S.     |
| C33    | Economics  |
| C34    | Pol. Sc.   |
| C50    | Accounting |
| C81    | M.I.S      |
| C86    | Hindi      |
| C98    | German     |

7. (a) Consider the relation EMPLOYEE (emp\_id, P.T.O.