PARUL UNIVERSITY
FACULTY OF ENGINEERING & TECHNOLOGY
B.TECH MIDSEM EXAMINATION
3rd SEMESTER (ACY-2022-23)

Subject Name (203105251): DBMS
Date: 03/08/2022
Time: 2:30PM to 4:00PM   Total Marks: 40

Q.1

(A) One line Questions   5*1

a) What is Primary Key?

b) Define Multivalued attribute with example.

c) Relation R has eight attributes ABCDEFGH. Fields of R contain only atomic values $F = \{CH \to G, A \to BC, B \to CFH, E \to A, F \to EG\}$ is a set of functional dependencies (FDs) . find the closer of A

d) The maximum number of superkeys for the relation schema R(E,F,G,H) with E as the key

e) Explain 3NF with an example .

(B) Compulsory Question   5*1

a) _____ attribute name could be structured as an attribute consisting of first name, middle initial, and last name.

b) Minimal Super key is known as _____.

c) Normalization is used to eliminate _____.

d) Attributes of relations which are part of candidate key are known as _____

e) ALTER is _____ command.

Q.2 Attempt any four   4*3

1) Explain trivial and non-trivial functional dependency with example

2) Define Super Key and Candidate key with example.

3) Draw the E-R diagram of university's database.

4) In the following relation S(SNO,SNAME,CITY) write a query to update the value of CITY to KANPUR for the supplier S1.

5) Consider a schema R(A, B, C, D) and following functional dependencies.

$A \to B, B \to C, C \to D, D \to A$. find the total number of candidate key .

Q.3 Attempt any two   2*4

(1) Consider a schema R(A, B, C, D) and following functional dependencies.

$A \to B, B \to C, C \to D, D \to B$. The highest normal form of this relation scheme

(2) Differentiate between DML and DDL.

(3) What is Generalization and Specialization? Explain with example.

Q.4   1*5

(A) From the following table employee(emp_id,emp_name,salary) write SQL query .

a) find the salaries of all employees

B) find the name of employee's where salary is grater then 30000.

c) find the maximum salary of employees.

d) find the employee's name that start with "a".

e) find the Second minimum salaries of employees.

B) Explain advantages of DBMS over file management system.   1*5

OR

B) Consider a schema R(A, B, C, D) and following functional dependencies.   1*5

$A \to B, B \to C, C \to D, D \to B$. then decomposition of R into R1 (A, B), R2(B, C) and R3(B, D) is LOSSLESS OR LOSSY?