Q. P. Code: 37783

(3 Hours) **Marks : 80**

N.B. : 1. Question **no. 1** is **compulsory**.

2. Solve any **Three** questions out of remaining **Five** questions.sss

Q 1 a Explain Role of DBA ? 5

b List all the functional dependencies satisfied by the relation. 5

X	Y	Z
X1	Y1	Z1
X1	Y2	Z1
X2	Y2	Z1
X2	Y2	Z1

c What is the difference between unique key and primary key? 5

d Explain different types of attributes with examples? 5

Q 2 a Explain static hashing technique with example? 10

b Define Normalization? Explain 1NF, 2NF and 3NF with examples? 10

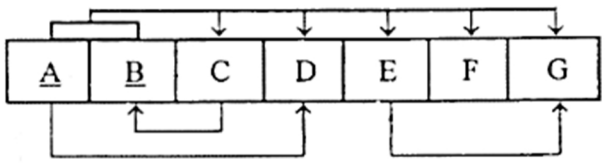
Q 3 a Consider the following employee database. 10

Employee(empname, street, city, date_of_joining)
Works(empname, company_name, salary)
Company(company_name, city)
Manages(empname, manager_name)
Write SQL queries for the following statements:

i) Modify the database so that employee "Sachin " now lives in "Mumbai"
ii) Find number of employees in each city with date_of_joining as "01-Aug-2017"
iii) List the name of companies starting with letter "A"
iv) Display empname , manager_name , city of those employees whose date_of_joining is greater than "01-01-2014"

b Explain DBMS architecture 10

Q 4 a Construct a dependency diagram of relation R and normalize it up to the BCNF Normal form 10



b Explain different types of relational algebra operations. 10

Q 5 a Explain Cursors and its types with example 10

b Draw EER diagram for Hospital Management System showing constraints on generalisation and specialisation 10

Q 6 Write a short note on:

a Types of Entities 5

b Authorization in SQL 5

c Views in SQL 5

d B- tree 5
