Code No: 134AP **R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech II Year II Semester Examinations, December - 2019
DATABASE MANAGEMENT SYSTEMS
(Common to CSE, IT)

Time: 3 Hours **Max. Marks: 75**

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A.
Part B consists of 5 Units. Answer any one full question from each unit.
Each question carries 10 marks and may have a, b, c as sub questions.

PART- A

(25 Marks)

1.a) Define View. [2]
b) Write the applications of DBMS. [3]
c) Define Trigger. [2]
d) What is join operation in relational algebra? [3]
e) Define functional dependency. [2]
f) What are the properties of decompositions? [3]
g) Define Transaction. [2]
h) What is multiple granularity locking? [3]
i) What is hashing? [2]
j) Give example of B+ trees. [3]

PART-B

(50 Marks)

2. Explain the architecture of Database Management Systems with a neat diagram. [10]

OR

3.a) What are the statements in SQL for destroying and altering tables?
b) What is a primary key and foreign key? [5+5]

4.a) Write the aggregate operators in SQL.
b) Write about complex integrity constraints in SQL. [5+5]

OR

5.a) Write Relational Algebra Queries for the following (for Sailors Database) Sailors (**sid**,sname,rating,age), Boats(**bid**,bname,color), Reserves(**sid,bid,day**).
(i) Find the Sailor id's with age over 20 and who have not reserved a red boat.
(ii) Find the names of Sailors who reserved boat 103
b) Explain tuple relational calculus. [6+4]

6.a) What are the problems of redundancy? Explain with example.
b) What is the solution to the problems of redundancy? Explain. [5+5]

OR

7. What is normal form? Explain normalization using (1NF, 2NF, 3NF) with examples. [10]

8.a) Explain the properties of transactions.
b) What are the concurrent control mechanisms without locking? [5+5]

OR

9.a) What is ARIES algorithm? Explain.
b) Explain media recovery. [5+5]

10. Explain Indexed Sequential Access Method. [10]

OR

11.a) Explain static hashing.

b) Explain Extendible hashing. [5+5]

---ooOoo---