Code No: 845AD **R17**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
MCA V Semester Examinations, December - 2019
DISTRIBUTED DATABASES

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

5 × 5 Marks = 25

1.a) Distinguish between distributed versus centralized databases. [5]
b) What is an operator tree of a query? Explain the use of operator graph. [5]
c) What do you mean by distributed transaction? Explain. [5]
d) What are the design issues of a reliable distributed database? [5]
e) What is pointer swizzling? Explain its advantages and disadvantages. [5]

PART - B

5 × 10 Marks = 50

2.a) What is referential integrity? Give an example.
b) Write the criteria used for checking correctness of fragmentation. [5+5]

OR

3. Given a global relation:
EMP (EMPNUM, NAME, SAL, TAX, MGRNUM, DEPTNUM).
Write the mixed fragmentation definition and fragmentation tree of relation EMP. [10]

4.a) How fragmented relation simplification is done? Explain.
b) What is the use of algebra of qualified relations? Discuss. [5+5]

OR

5. Explain the following for distributed databases.
a) Operations in a parametric query
b) GROUP by operation for evaluating aggregate functions. [5+5]

6. Explain in detail various methods used for deadlock detection. [10]

OR

7.a) Write about computational structure of distributed transaction.
b) What is serializability? Illustrate this concept with an example. [5+5]

8. Explain about quorum based commitment protocols. [10]

OR

9. Discuss object naming and catalog management with site autonomy. [10]

10.a) What are the issues related to query processing and optimization in object DBMS? Discuss.
b) Explain object query processor architecture. [5+5]

OR

11.a) Define type lattice and its management.
b) Explain the management of composition graph. [5+5]