

Reg. No:.....

Name:

APJ ABDULKALAM TECHNOLOGICAL UNIVERSITY
SEVENTH SEMESTER B.TECH. DEGREE(HONS.) EXAMINATION DEC 2019

Course code:08 CS 6031

Course Name: ADVANCED DATABASE TECHNOLOGY

Time:3 hours

Max. marks: 60

Answer all six questions.

Modules 1 to 6: Part 'a' of each question is compulsory and answer either part 'b' or part 'c' of each question.

Q.no.	Module 1	Marks
1.a	Describe the characteristics of a table that is in normalized form. Why 5NF is also called Project-Join Normal Form.	3
Answer b or c		
b	How does a query tree represent a relational algebra expression? Discuss the rules for transformation of query trees.	6
c	Consider the SQL Query SELECT P.Pnum, P.Dnum, E.Fname, E.Lname FROM PROJECT AS P, DEPARTMENT AS D, EMPLOYEE AS E WHERE P.Dnum=D.Dnumber AND D.Mgr_ssn=E.Ssn AND P.Plocation='INDIA'. Draw at least two query trees that can represent the query.	6
Q.no.	Module 2	Marks
2.a	Explain in detail about Parallel Database Architectures.	3
Answer b or c		
b	List out any 3 Partitioning Strategies used in I/O Parallelism and compare its partitioning techniques in detail.	6
c	Explain the major issues in Parallelism in detail.	6

Q.no.	Module 3	Marks
3.a	How is a Horizontal and Vertical Partitioning of a relation specified.	3
Answer b or c		
b	Explain in detail about Data Transfer costs of distributed query processing with an example.	6
c	What are the main types of fragments? Why is fragmentation a useful concept in distributed database design?	6
Q.no.	Module 4	Marks
4.a	How to represent a semistructured data as a graph. Explain it with a PROJECT database.	3
Answer b or c		
b	Write an XML schema of COLLEGE database and also explain its schema concept in detail.	6
c	Draw an ER diagram of COMPANY database. Extract an XML documents from the relational database.	6
Q.no.	Module 5	Marks
5.a	Explain the characteristics of NoSQL database.	4
Answer b or c		
b	Explain about graph database and also describe any 2 graph models in detail.	8
c	Explain any 2 types of Not only SQL database and also explain its applications.	8
Q.no.	Module 6	Marks
6.a	Explain the basic steps of location update with neat diagram.	4
Answer b or c		
b	Briefly discuss about Handoff Management in detail.	8
c	Explain any 3 Mobile Transaction Models in detail.	8