

(3 hrs.)

Maximum Marks = 80

NB:

1. Question No. 1 is compulsory and solve any THREE questions from remaining questions.
2. Assume suitable data if necessary.
3. Draw clean and neat diagrams.

	Marks
Q1.	
a. What is a Query Evaluation Plan? Explain with the help of an example.	05
b. List the uses of Big Data.	05
c. Describe the significance of indexing with the help of different techniques of indexing in databases.	05
d. Explain different types of transparencies in distributed database.	05
Q2. a. Illustrate an insertion operation in B+ tree with the help of an example.	10
b. With respect to data stream querying, explain and give example of:	10
(a) One Time queries	
(b) Continuous Queries	
(c) Pre-defined queries	
(d) Ad-hoc queries	
Q3. a. Explain Role based Access control and Discretionary access control with Example.	10
b. Explain Hadoop Ecosystem with core components. Explain its Physical architecture. State Limitations of Hadoop.	10
Q4 a. How to measure the correctness of fragmentation techniques? Name the operators used to reform the original database from the fragments.	10
b. What is MapReduce? Explain How Map and Reduce Work? What is Shuffling in MapReduce?	10
Q5 a. What is Big Data? What is Hadoop? How Big Data and Hadoop are linked?	10
b. Illustrate parallel sort algorithm with the help of an example.	10
Q6 a. Define DAC. Show the ways in which the DBA can perform the following.	10
1. Give all users all the privileges	
2. Give update privilege on amount column of loan relation to user U1	
3. Give the privilege to U1 to pass the privileges to other users	
b. Write Short Note:	10
1. Temporal and Spatial Databases	
2. Data partitioning in parallel databases.	
