

(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.

Q1.	Marks
a. Describe Query optimization with the help of an example.	05
b. List the design issues of distributed database.	05
c. Describe Role based access controls in database with example.	05
d. Describe mobile databases.	05
<b>Q2.</b> a. Illustrate Nested Loop Join algorithm in database.	<b>10</b>
b. How data can be fragmented in distributed databases. Describe the techniques with the help of an example.	<b>10</b>
<b>Q3.</b> a. What is the role of indexing in databases. Illustrate search and delete operation in B+ tree.	<b>10</b>
b. How data partitioning can be achieved in parallel database?	<b>10</b>
<b>Q4</b> a. What is Big Data? Discuss any one big data storage system in detail.	<b>10</b>
b. Explain word count implementation using Hadoop framework.	<b>10</b>
<b>Q5</b> a. Discuss the various architectures of parallel databases.	<b>10</b>
b. Explain Hadoop Ecosystem with core components. Explain its Physical architecture. State Limitations of Hadoop.	<b>10</b>
<b>Q6</b> a. How is query processing handled in distributed database? Explain with the help of an example.	<b>10</b>
b. Write Short Note:	<b>10</b>
1. Graph Databases	
2. Discretionary Access Control	