22521

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3 Hours / 70 Marks Seat No. | | | | | | | | |

Instructions – (1) All Questions are *Compulsory.*

(2) Answer each next main Question on a new page.

(3) Illustrate your answer with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Assume suitable data, if necessary.

(6) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1. Attempt any FIVE of the following: **10**

a) Enlist different types of concurrency control protocols.

b) Enlist any four characteristics of XML.

c) Define aggregation.

d) Enlist any four application of data mining.

e) State any four components of Hadoop.

f) Give any four features of Hadoop cloudera combination.

g) State any two data types used in Mongo DB.

Marks

2. Attempt any THREE of the following: **12**

a) Explain any two architectural design for parallel database.

b) Differentiate between structured and unstructured data. (Write any four points)

c) What is the use of find ( ) in Mongo DB? Explain it with suitable example.

d) Explain complex data types with suitable example.

3. Attempt any THREE of the following: **12**

a) State different approaches of machine learning.

b) Compare SQL and NoSQL database system. (Write four points)

c) With the help of neat diagram explain Hadoop architecture.

d) Explain mobile database with neat diagram.

4. Attempt any THREE of the following: **12**

a) Explain benefits of distributed database system. (Any four)

b) Explain basic datatypes and arrays in MongoDB. (Any two each)

c) Explain classification and clustering in data mining.

d) Write any four features of R-programming.

e) Describe the features of BI components. (Any four points)

Marks

5. Attempt any TWO of the following: **12**

a) Consider following input data for your Map Reduce Program 'PLSQL is better than SQL'. Draw Map Reduce Architecture and explain its phases.

b) Explain structured types and inheritance in SQL.

c) Explain object and object identity. Write SQL query for following table.

Class: Employee
Name
Age
Salary
Department
Gender
Store
Paint
Update

6. Attempt any TWO of the following: **12**

a) Explain Two Tier and Three Tier client server model.

b) Explain array and multiset types in SQL with example.

c) Compare data mining and data warehousing. (Any six points)