

# 22521

**23242**

**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 answers with neat sketches wherever necessary.
  - (4) Figures to the right indicate full marks.
  - (5) Assume suitable data, if necessary.
  - (6) 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) Define two tier and three tier client sever model.
  - b) State the use of single purpose Aggregation (any two).
  - c) State types of parallelism.
  - d) Enlist any four application of data mining.
  - e) State the use of find ( ) and aggregate ( ).
  - f) Define data mart and meta data.
  - g) Define flower expression.
  
- 2. Attempt any THREE of the following:** **12**
  - a) Draw and explain distributed database system architecture.
  - b) Explain MULTiset data types with example.
  - c) Explain architecture of data warehouse.
  - d) Explain Big data.

P.T.O.

- 3. Attempt any THREE of the following:** **12**
- a) Explain any two complex data types with example.
  - b) Compare between parallel and distributed database. (any four points)
  - c) Explain aggregation pipeline.
  - d) Describe machine learning.
- 4. Attempt any THREE of the following:** **12**
- a) Describe data synchronization in mobile database.
  - b) Explain oracle cloud technology.
  - c) Difference between XQuery and XPath. (Any 4 points)
  - d) Describe the features of BI components.
- 5. Attempt any TWO of the following:** **12**
- a) Explain object and object identity. Write SQL query for the following table :
- |                 |
|-----------------|
| Class : Student |
| Name            |
| Age             |
| GPA             |
| Subject         |
| Gender          |
| Store           |
| Print           |
| Update          |
- b) Define lock. Explain two phase locking protocol with example.
  - c) Explain XQuery FLWOR with suitable example.

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

- a) Consider following input data for your map reduce program.  
Welcome to hadoop class.  
Hadoop is good.  
Hadoop is bad.  
Draw map reduce architecture and explain its phases.
- b) Explain following commands w.r.t. mongoDB shell with example :-
- i) db
  - ii) use
  - iii) show dbs.
- c) Draw and explain architecture of Hadoop.
-