

316321

25226

3 Hours / 70 Marks

Seat No.

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- 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 data warehouse.
 - b) Define metadata repository in data warehouse.
 - c) Define Data cube.
 - d) List different categorization of measures.
 - e) Define the mining frequent patterns.
 - f) Define classification. List any two classification methods.
 - g) Define clustering. List any two clustering methods.
- 2. Attempt any THREE of the following :** **12**
- a) Differentiate between Operational Database System and Data Warehouse.
 - b) Explain star schema with diagram.
 - c) Explain of data pond, data lake, data ocean with neat diagram.
 - d) Explain any two applications of rule based classifier.

P.T.O.

3. Attempt any THREE of the following : 12

- a) Explain ETL process with neat diagram.
- b) Explain Market Basket Analysis with example.
- c) Explain roles of concept hierarchies in dimensions.
- d) Define decision tree. Explain decision tree induction.

4. Attempt any THREE of the following : 12

- a) Explain Frequent Item sets and Closed Item sets with example.
- b) Explain different attribute selection measures of decision tree.
- c) Describe benefits of data warehousing.
- d) Explain mining closed and max patterns.
- e) Explain working principle of Naïve bayes classifier.

5. Attempt any TWO of the following : 12

- a) Explain OLAP Operations with example.
- b) Given the following data, apply the Apriori algorithm.
Min support = 50% in Database D.

Transaction Id	Items bought
T1	BREAD, BUTTER, MILK
T2	BREAD, BUTTER
T3	BREAD, MILK
T4	BUTTER, MILK
T5	BREAD, MILK

- c) Explain K-means clustering with example.

6. Attempt any TWO of the following : 12

- a) Explain three-tier architecture of data warehouse with diagram.
 - b) Describe data cube computation strategies.
 - c) Compare Agglomerative versus Divisive Hierarchical Clustering in detail.
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