

(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 0105

Roll No.

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**B.Tech.**

(SEM. VII) ODD SEMESTER THEORY EXAMINATION 2010-11

**DATA MINING AND DATA WAREHOUSING**

Time : 3 Hours

Total Marks : 100

**Note :—** Attempt *all* questions.

1. Attempt any *two* parts of the following :— (10×2=20)
  - (a) (i) Identify and describe the basic phases in KDD process.
  - (ii) Describe the basic architecture of Data Warehouse.
  - (b) Explain the multi dimensional data and data cube. Describe the basic operations performed on data cube.
  - (c) What do you mean by cleaning of the data ? Explain the important types of data cleaning.
2. Attempt any *two* parts of the following :— (10×2=20)
  - (a) What is association rule mining ? Explain the Apriori algorithm to find the frequent item sets.
  - (b) Explain the mining multidimensional association rules from relational databases and data warehouses.
  - (c) Discuss why analytical characterization and attribute relevance analysis are needed and how these can be performed ?

3. Attempt any *two* parts of the following :— (10×2=20)
- (a) What is a decision tree ? Explain the classification by decision tree induction. Describe the tree pruning.
  - (b) Describe the neural network. How the neural network useful in classification ? Explain.
  - (c) Find and write the basic differences between clustering and classification. Describe the density-based clustering method based on connected regions with sufficiently high density (DBSCAN).
4. Attempt any *two* parts of the following :— (10×2=20)
- (a) Draw and explain the three-tier architecture of data warehouse model.
  - (b)
    - (i) What is data mart ? Explain its role in data warehousing.
    - (ii) Discuss the differences between data warehouse and database system.
  - (c) Describe the star, snowflake and fact constellations schemas for multidimensional database.
5. Attempt any *two* parts of the following :— (10×2=20)
- (a) Explain the aggregation. How does the OLAP handle the aggregation ? Explain the differences between OLAP and MOLAP.
  - (b) Describe the MOLAP and ROLAP in brief. Write their contribution in building of data warehouse.
  - (c) Explain the following :—
    - (i) Tuning Data Warehouse
    - (ii) Testing Data Warehouse.

