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

PAPER ID : 0105   **Roll No.** [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ] [ ]

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 ?

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).

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.

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.