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Roll No. ....

IT-840

B. E. (Eighth Semester) EXAMINATION, June, 2012

(Information Technology Engg. Branch)

DATA MINING AND WAREHOUSING

(Elective — IV)

(IT — 840)

Time : Three Hours

Maximum Marks : 100

Minimum Pass Marks : 35

Note : Attempt any *five* questions. All questions carry equal marks.

1. (a) List out the advanced database systems and also write the application of advanced database system with example. 12

   (b) Explain the concept of Data Warehouse and Data Mart with an example 8

2. (a) Consider the case of a bank credit card system : 12

   (i) Give 3D data elements and 2 fact elements that could be in the database for this data warehouse. Draw Data Cube.

   (ii) Suggest an aggregate that would apply to one of the dimension data element

(b) Compare and contrast the two basic ways to analyse the data in data warehouse.   8

3. (a) Write the classification of Data Mining system based on :   12

    (i) The Models

    (ii) Types of data

    (iii) Functionalities

    (iv) Level of Abstraction of Knowledge

(b) Explain Association rule in mathematical notations. Define support and confidence in association rule mining.   8

4. (a) What is Apriori algorithm ? Give few techniques to improve the efficiency of Apriori algorithm.   10

(b) What are multidimensional association rules ? Mention few approaches to mining multilevel association rule. 10

5. (a) Explain about the following :   12

    (i) Algorithm for generating Decision Tree

    (ii) Pre-Pruning and Post-Pruning Approach

(b) Define Clustering. What are the requirements of cluster analysis ?   8

6. (a) What is the use of Regression ? What are the two approaches used by regression to perform classification ?   10

(b) What is the time series analysis ? What are the various detected patterns in time series ?   10

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7. (a) What is use of knowledge base ? Write the architecture of typical data mining system. 12

   (b) Define Descriptive and Predictive model in data mining. 8

8. (a) What is virtual data warehouse ? Define ROLAP, MOLAP and HOLAP with example. 12

   (b) Specify the *five* criteria for the evaluation of classification and prediction. 8