Total No. of Questions : 5] *[Total No. of Printed Pages : 2*

Roll No .....

MCSE-301(A)

M.E./M.Tech., III Semester

Examination, December 2016

Data Warehousing and Mining

(Elective - I)

Time : Three Hours

Maximum Marks : 70

Note: i) All questions are compulsory.
ii) Attempt any two parts out of these in each question.
iii) Write to the point answers.

1. a) How is data mining related to process of 'Knowledge discovery in Databases' (KDD)? Is data mining an independent field of study? How is data mining query different from a simple database query? 7
   b) What are the basic data mining tasks? What kind of problems do we face while doing these tasks? Briefly discuss challenges of data mining algorithms. 7
   c) In course of data mining tasks, define the following tasks and explain their applications briefly: 7
      i) Classification task
      ii) Clustering task

2. a) What is a classifier? Explain the nearest neighbour classifier. What are the characteristics of such a classifier? In what kind of domains it can be used? 7
   b) What is a decision tree based classifier? How do we define an attribute test condition for split of a node? 7
   c) Explain the apriori algorithm for association rule mining. What is apriori property? How do we measure goodness of a candidate in mining association rules. 7

3. a) Define the two approaches to clustering. What type of algorithm is PAM (Partition Around Medoids). Briefly explain PAM algorithm. Why is CLARA better than PAM? 7
   b) What is density based clustering? Explain the DBSCAN algorithm for clustering. What are the favourable features of DBSCAN for clustering large databases? 7
   c) What do you understand by a Neural Network? What is a perceptron? Briefly explain the perceptron learning. 7

4. a) What is Web mining? Briefly explain web content mining. How is it different from web structure mining? 7
   b) What is Temporal data mining ? What are the different types of temporal data? Explain using examples. 7
   c) Briefly explain the GSP Algorithm for temporal association rule mining. 7

5. a) Write short notes on (any two) 7
      i) SPIRIT
      ii) WUM
      iii) SPADE
   b) Where do we need to use time series analysis? Explain the process of feature extraction from time series. 7
   c) Differentiate clearly between classification and clustering taking suitable examples. 7

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