Total No. of Questions : 8] *[Total No. of Printed Pages : 2*

Roll No .....

MCSE-301(A)

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

Examination, December 2017

Data Warehousing and Mining

(Elective - I)

Time : Three Hours

Maximum Marks: 70

Note: i) Attempt any five questions.
ii) All questions carry equal marks.

1. a) What is data mining ? List challenges to data mining regarding data mining methodology and user interaction issues. 7
   b) Define KDD. How data Mining techniques applied over multimedia database, temporal database and spatial database to extract useful knowledge. 7

2. a) Briefly discuss the issues and challenges in data mining? Also write down its application areas. 7
   b) List two shortcomings of the algorithms which helped in improving the efficiency of apriori algorithm. Discuss any two variations of the apriori algorithm to improve the efficiency. 7

3. a) What is decision tree induction? Write basic algorithm for inducing a decision tree from training tuples. 7
   b) Give a brief note on web usage mining. 7

4. a) Write and explain the algorithm for mining frequent itemsets without candidate itemsets generation with suitable example. 7
   b) Compare hierarchical and partitioned clustering techniques with an example. 7

5. a) State the apriori property. Generate large itemsets and association rules using apriori algorithm on the following data set with minimum support value and minimum confidence value set as 50% and 75% respectively. 7

TID	Item purchased
A101	Butter, Bread
A102	Butter, Milk, Bread
A103	Cheese, Bread, Milk, Butter
A104	Cheese, Milk, Cookies

   b) What are neural networks? Describe the various factors which make them useful for classification and prediction in data mining. 7

6. a) Write the differences between classification and prediction. Also discuss various issues of classification and prediction. 7
   b) Discuss the following:- 7
      i) Mining on time series and Sequence data
      ii) Episode discovery

7. a) What is spatial data mining ? Can we create data cube on spatial data? If so then explain spatial data cube with suitable example. 7
   b) Explain the following with suitable example: 7
      i) Spatial association analysis
      ii) Spatial clustering

8. Write short notes on (any three) 14
   a) Content based image and video retrieval
   b) Motion analysis
   c) Feature Extraction
   d) DBSCAN

584

******