

Roll No

MCTA-301(A)/MCIT-301(B)**M.E./M.Tech. III Semester**

Examination, December 2014

Data Mining and Ware Housing (Elective-I)*Time : Three Hours**Maximum Marks: 70**Note : Attempt five questions out of eight.*

1. a) Compare operational Database, Data Warehouse and Data mining. 7
b) Discuss the issues and challenges in Data Mining. 7
2. a) Enumerate the steps involved in KDD process. 7
b) Calculate the distance between two objects A = (22, 2, 45, 10) and B = (21, 0, 34, 9) using the Manhattan distance and Minkowski distance for P = 4. 7
3. a) How can efficiency of Apriori-based be improved? Describe briefly any of five variations of the Apriori algorithm. 7
b) Discuss basic algorithm for inducing a Decision tree from training samples. 7
4. A data base consists of nine transaction taken from a grocery store enumerate all the frequent itemsets using Apriori algorithm with minimum support threshold $s = 3$ and minimum confidence threshold $C = 50\%$. Show the candidate and frequent itemsets for each database can. List all the association rules that are generated and highlight the strong ones, sort them by confidence. 14

id	Items
1	Milk, Bread, Eggs
2	Bread, Sugar
3	Bread, Cereal
4	Milk, Bread, Cereal
5	Milk, Cereal
6	Bread, Cereal
7	Milk, Cereal
8	Milk, Bread, Cereal, Eggs
9	Milk, Bread, Cereal

5. a) Discuss data visualization with reference to data mining. 7
b) Explain the different steps involved in sub sequent extension of FP Tree. 7
 6. a) Perform a hierarchical clustering of five samples using the single linkage algorithm and two features x and y. Draw the dendrogram. 7
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|---|---|---|----|----|----|
| | 1 | 2 | 3 | 4 | 5 |
| x | 4 | 8 | 15 | 24 | 24 |
| y | 4 | 4 | 8 | 4 | 12 |
- b) Explain categorical clustering algorithms briefly. 7
 7. a) Explain the case of mining video and image with example. 7
b) Explain genetic algorithm and also the various operators used in GA. 7
 8. Write short notes on the following: 14
 - a) Memory based reasoning
 - b) Fuzzy logic
 - c) Web content mining
 - d) SPADE.
