

Total No. of Questions : 8]

SEAT No. :

P2332

[Total No. of Pages : 2

[5254]-667

B.E. (Computer Engineering)

DATA MINING TECHNIQUES AND APPLICATIONS

(2012 Pattern) (Semester - I) (Elective - I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

- 1) *Answer Q.1 or Q.2, Q.3 or Q.4 , Q.5 or Q.6, Q.7 or Q.8.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume Suitable data if necessary*

- Q1)** a) What are missing values? Explain methods to handle missing values. [6]
b) Write Apriori Algorithm and explain it with suitable example. [6]
c) What are the different metrics for performance evaluation? Explain any four. [8]

OR

- Q2)** a) Explain Bayes theorem and Naive Bayes classification algorithm. [8]
b) Use the two methods below to normalize the following group of data:[8]
200, 300, 400, 600, 1000
a) min-max normalization by setting min = 0 and max = 1
b) z-score normalization.
c) Explain applications of Market basket analysis. [4]
- Q3)** a) Explain CLARA(Clustering Larage Applications), as. extension of PAM(Partitioning Around Medoids) algorithms for handling large data sets. [6]
b) Explain AGNES and DIANA Hierarchical Clustering with example and diagram. [8]
c) What is meant by cluster analysis? [3]

P.T.O.

OR

- Q4)** a) Using K-Means Clustering, Cluster the following data into 2 cluster. [8]
{4,6,12,14,5,22,32,13,27}, Explain each step with diagram
- b) Explain K- Medoids clustering algorithm with example. [6]
- c) Write equations for min, max, mean and average distance, to find out inter cluster distance. [3]
- Q5)** a) Explain following terms: [9]
- Term Frequency
 - Inverse Document Frequency
 - Bag of Words
- b) What is web crawler? Explain working of web crawlers. [6]
- c) What is document ranking? [2]

OR

- Q6)** a) Differentiate between Web content mining and Web usage mining. [6]
- b) Which are dimensionality reduction techniques in text mining? List them and explain any one of them. [8]
- c) What is feature vector? [3]
- Q7)** a) Explain Intelligent agent and environment, learning agents, rewards, adaptive learning in reinforcement learning. [8]
- b) Write a note on multi-perspective learning and Holistic Learning. [8]

OR

- Q8)** a) Draw and explain diagram for systematic machine learning framework. [8]
- b) Write a note on Advanced techniques for big data mining. [8]

