

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA - SEMESTER-IV • EXAMINATION – WINTER - 2018

Subject Code: 3640006**Date: 27/11/ 2018****Subject Name: DATA MINING****Time: 10.30 am to 1.00 pm****Total Marks: 70****Instructions:**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1 (a)** Explain following terms. **07**
- 1) Data warehouse
 - 2) OLAP
 - 3) Spatial mining
 - 4) Strong rules
 - 5) Outliers
 - 6) Text mining
 - 7) Backpropagation
- (b)** List the various Data Pre-processing methods. Discuss various Data Cleaning techniques for Missing value and Noisy data. **07**
- Q.2 (a)** What is data mining? Describe the steps involved in data mining process with diagram. **07**
- (b)** Describe the FP-growth (Frequent Pattern growth method) approach for mining frequent itemsets. **07**
- OR**
- (b)** What is Apriori property? How the Apriori property is used in finding frequent itemset. Explain Join and Prune step. **07**
- Q.3 (a)** Differentiate between two classification methods Eager learners & Lazy learners. Also give the examples of methods of eager learners and lazy learners. **07**
- (b)** What is Bayes theorem? Explain the working of Naïve Bayesian Classifier. **07**
- OR**
- Q.3 (a)** Describe Decision Tree Induction algorithm. You can describe it with the help of an example. How are the Rules induced from the Decision Tree? **07**
- (b)** Discuss following in brief: **07**
- 1) Information Gain
 - 2) Gain Ratio
- Q.4 (a)** What is cluster analysis? What are the requirements of cluster analysis? **07**
- (b)** Compare K-mean and K-medoids methods of clustering. **07**
- OR**
- Q.4 (a)** Write a short note on “Types of data in cluster analysis”. **07**
- (b)** Discuss the categorization of clustering methods. **07**
- Q.5 (a)** Why Data Mining Required for Biological Data Analysis? **07**
- (b)** Discuss the typical cases of Data Mining in Telecommunication Industry. **07**
- OR**
- Q.5 (a)** Explain Data Mining for Financial Data Analysis. **07**
- (b)** Discuss typical cases of Data Mining in Retail Industry. **07**
