

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VIII EXAMINATION – SUMMER 2016****Subject Code:183103****Date:16/05/2016****Subject Name:Business Intelligence & Data Mining (Department Elective II)****Time:10:30 AM to 01:00 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) Briefly describe the following database systems and application: object oriented database, spatial database, multimedia database, world wide web **07**
 (b) Explain data warehouse in detail. Discuss Data warehouse application. **07**
- Q.2** (a) How can data mining help business analyst? **07**
 (b) Discuss the need of human intervention in data mining process. **07**
- OR**
- (b) In data warehouse technology, a multiple dimensional view can be implemented by a ROLAP, MOLAP and HOLAP. Briefly describe each implementation technique. **07**
- Q.3** (a) Describe the any two primitives for specifying a data mining task. **07**
 (b) Describe the different type of architectures for integration of a data mining system with database or data warehouse. **07**
- OR**
- Q.3** (a) List out four major types of concept hierarchies. Briefly define each type of hierarchy. **07**
 (b) Define descriptive data mining and predictive data mining. Discuss attribute oriented induction approach to data generalization. **07**
- Q.4** (a) Discuss why analytical characterization is needed and how it can be performed. Compare the result of two induction methods: (1) with relevance analysis and (2) without relevance analysis. **07**
 (b) Explain method of mining frequent item sets without candidate generation **07**
- OR**
- Q.4** (a) Briefly outline the major steps of decision tree classification. Why tree pruning useful in decision tree induction? **07**
 (b) Suppose that the data for analysis includes the attribute age. The age values for the data tuple are (in increasing order) 13, 15, 16, 16, 19, 20, 20, 21, 22, 22, 25, 25, 25, 25, 30, 33, 33, 35, 35, 35, 35, 36, 40, 45, 46, 52, 70
 (a) What is the mean of the data? What is the median? **07**
 (b) What is the mode of the data? Comment on the data's modality.
 (c) What is the midrange of data?
 (d) Give five numbers summary of data.
- Q.5** (a) Compare the advantages and disadvantages of eager classification versus lazy classification. Explain Case Base Reasoning classifier. **07**
 (b) Discuss disadvantage of Apriori algorithm. How might the efficiency of Apriori be improved? **07**
- OR**
- Q.5** (a) Discuss the criteria of comparing classification methods. **07**
 (b) Explain the naïve Bayesian classifier. **07**