

**GUJARAT TECHNOLOGICAL UNIVERSITY****MCA SEMESTER—IV –EXAMINATION –SUMMER-2016****Subject code: 2640005****Date: 04-06-2016****Subject Name: Data Warehousing & Data Mining****Time: 10.30a.m. To 01.00p.m.****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) Define the following terms: **07**
- |                         |                          |
|-------------------------|--------------------------|
| (i) Fact table          | (ii) Data Warehouse      |
| (iii) Bitmap indexing   | (iv) Data cube           |
| (v) Outlier             | (vi) Concept description |
| (vii) Linear regression |                          |
- (b) What are the different types of multidimensional schemas? Explain any one schema in detail with proper diagram. **07**

- Q.2** (a) Explain OLAP operations in the multidimensional data model. **07**
- (b) What do you mean by data transformation? Explain different methods of data transformation. **07**

**OR**

- (b) What do you mean by data reduction? Explain different strategies for data reduction. **07**

- Q.3** (a) Explain the major issues in data mining. **07**
- (b) Discuss the variations of the Apriori algorithm to improve the efficiency. **07**

**OR**

- Q.3** (a) Draw and explain the data mining architecture. **07**
- (b) Explain the Apriori algorithm for finding frequent itemsets without candidate generation. **07**

- Q.4** (a) Explain the following as attribute selection measure: **07**
- |                 |  |
|-----------------|--|
| (i) Gini Index  |  |
| (ii) Gain Ratio |  |
- (b) State and explain the Bayesian classification. **07**

**OR**

- Q.4** (a) Explain the various methods which evaluate the accuracy of a classifier or a predictor. **07**
- (b) Describe and explain the partitioning based clustering method. **07**

- Q.5** (a) Explain the typical requirements of clustering in data mining. **07**
- (b) What all features should a good data mining system include? **07**

**OR**

- Q.5** (a) Explain the types of data in cluster analysis. **07**
- (b) How data mining use in intrusion detection? **07**

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