

GUJARAT TECHNOLOGICAL UNIVERSITY**BE – SEMESTER VIII • EXAMINATION – SUMMER - 2014****Subject code: 183103****Date: 27-05-2014****Subject Name: Business Intelligence and Data Mining****Time: 10:30 pm 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) What is Business Intelligence? Explain BI/DW architecture. **07**
 (b) How do Data Mining Task primitives guide Data Mining process? Explain all primitives. **07**
- Q.2** (a) What is concept description? How does attribute oriented induction approach help in generalizing data? **07**
 (b) For given following transaction database (Ref. Table 1), find out frequent itemsets using Apriori algorithm. Assume Minimum Support count=2 and Minimum Confidence=70%. Generate strong association rules from frequent itemsets. **07**

Table 1: Transaction Database of items

TID	List of item IDs
T100	I1, I2, I5
T200	I2, I4
T300	I2, I3
T400	I1, I2, I4
T500	I1, I3
T600	I2, I3
T700	I1, I3
T800	I1, I2, I3, I5
T900	I1, I2, I3

OR

- (b) Compare FP-Growth approach with Apriori and prepare FP-tree for transaction database given in **Table 1**. **07**
- Q.3** (a) What are the issues in DM-KDD process? **07**
 (b) What are the parameters to compare classification methods? Explain Attribute selection measures – Entropy and Information Gain. **07**

OR

- (a) Compare OLAP and OLTP. **07**
 (b) Explain interestingness measures with examples. **07**
- Q.4** (a) Explain data warehousing, data marts and virtual warehouses. **07**
 (b) Explain following classification methods: **07**
 (1) Decision Tree Induction approach (2) Genetic Algorithms

OR

- (a) Define Data Mining and explain classification of Data Mining Systems. **07**
 (b) Explain following methods: (1) Regression (2) Case-based Reasoning **07**
- Q.5** (a) Compare terms: (1) Classification and prediction (2) Classification and Discrimination **07**
 (b) What is Association Rule Mining? What are the types of Association Rules? **07**

OR

- (a) Explain classification by back-propagation method of Neural Network. **07**
 (b) Discuss prospective Business Intelligence applications of Data Mining. **07**
