Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME - SEMESTER– II(Old course) • EXAMINATION (Remedial) – WINTER- 2015

Subject Code: 1720108 **Date: 14/12/2015**

Subject Name: Data Mining & Data Warehousing

Time:2:30 pm to 5:00 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 Answer the following. **14**

(i) Differentiate between data, information & knowledge.

(ii) What are the major issues/challenges in data mining?

(iii) Compare OLAP and OLTP systems with illustration.

(iv) What is application of concept hierarchy? Draw concept hierarchy for location(country, state, city, street) and time(year, quarter, month, week, day).

Q.2 **(a)** Define each of the following data mining functionalities: characterization, discrimination, association, classification, prediction, clustering, evolution analysis **07**

(b) What is KDD? Explain the steps of Knowledge Discovery Process in detail. **07**

OR

(b) Define multilevel association rules. Give suitable example and explain various methods to mine them. **07**

Q.3 **(a)** What is MOLAP? Explain Three types of Schemas for multidimensional databases. **07**

(b) Why preprocessing is required before any data mining method is applied? Explain in brief various data preprocessing methods. **07**

OR

Q.3 **(a)** Explain 3-D Data Cube representation of data Explain Slice, Dice, Pivot, Rollup and Drill down operations on it. **07**

(b) What do you mean by data cleaning? Explain various data cleaning methods in brief. **07**

Q.4 **(a)** Describe A Multilayer Feed-Forward Neural Network. **07**

(b) Compare various attribute selection measures for decision tree with suitable example. **07**

OR

Q.4 **(a)** Define: Supervised learning, Training set, Testing set, Accuracy of classifier, Sensitivity, Specificity, Class label attribute. **07**

(b) What is Text Mining and Multimedia Mining? Explain various issues involved in it. **07**

Q.5 Answer the following (Any TWO) **14**

(a) Define: Market-basket analysis, Data Mart, Candidate item-set, Frequent item-set, A-priori property, Support & Confidence.

(b) What do you mean by frequent item-set mining for market basket analysis? Explain apriori algorithm for the same with suitable example.

(c) Describe Density-Based Local Outlier Detection.