

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY
MCA Sem-4th Regular Examination May 2011

Subject code: 640005

Subject Name: Data Warehousing & Data Mining

Date: 26/05/2011

Time : 02.30 p.m. – 05.00 p.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) Answer the Following. [07]

- (i) Explain the importance of Data Mining Engine in Data Mining System.
- (ii) What is Departmental Data Warehouse?
- (iii) List out Data Transformation steps in Data Warehouse.
- (iv) Discuss the importance of Data Preprocessing.
- (v) Define Based Cuboid.
- (vi) Explain the importance of clustering as data analysis technique.
- (vii) What is fact less Fact Table?

(b) Answer the Following. [07]

- (i) List out Data Transformation steps in Data Warehouse.
- (ii) Explain Concept Hierarchy.
- (iii) What is data analysis?
- (iv) Define the term Attribute Generalization.
- (v) Describe the term backpropagation.
- (vi) Discuss the use of binning in Data Mining.
- (vii) What kinds of patterns can be mined?

Q. 2 (a) Answer the Following.

- (i) Justify the statement: "All patterns derived by Data Mining algorithm are interesting." [02]
- (ii) What is cross market analysis? [02]
- (iii) Differentiate the terms OLAP and OLTP. [03]

(b) Answer the Following.

- (i) Explain in brief: Attribute Removal for Attribute Oriented Induction. [02]
- (ii) What is the difference between Classification and Prediction? [02]
- (iii) Differentiate the Star Schema and Snow-Flack Schema. [03]

OR

(b) Answer the Following.

- (i) List out the criteria on which classification and predication methods can be compared. [02]
- (ii) What are the difference between Supervised Learning and Unsupervised Learning? [02]
- (iii) Differentiate Relational Data Model and Data Warehouse Data Model. [03]

- Q. 3 (a) Answer the Following.
- (i) Explain with figure: Knowledge Discovery from database. [04]
 - (ii) How to clean the Noisy data? Elaborate it with appropriate example. [03]
- (b) Answer the Following.
- (i) Explain with figure: 3-Tire Data Warehouse Architecture. [04]
 - (ii) List out any three OLAP operations with appropriate example of data cube. [03]

OR

- Q. 3 (a) Answer the Following.
- (i) Briefly explain different types of OLAP server. [04]
 - (ii) Explain different types of views considered for Data Warehouse Design. [03]
- (b) Answer the Following.
- (i) Which coupling schemes are used for integration of Data Mining System with Database or Data Warehouse? [04]
 - (ii) What is Fact and Dimension? Explain Multi-Dimensional Data Model with suitable data model. [03]

- Q. 4 (a) Answer the Following.
- (i) Explain the methodology for class comparison. [04]
 - (ii) How to classify Data Mining System? [03]
- (b) Answer the Following.
- (i) What is Association Rule Mining? Give Example of Association Rule Derivation from Frequent Item Set. [04]
 - (ii) Which are the Major Issues in Data Mining? [03]

OR

- Q. 4 (a) Answer the Following.
- (i) What is Frequent Item Set? Derive Frequent Item Set with suitable example. [04]
 - (ii) What is the need of Attribute Relevance Analysis? [03]
- (b) Answer the Following.
- (i) Justify the Statement with proper example: “Strong rules are not necessarily interesting.” [04]
 - (ii) On what kind of data Data Mining can be performed? [03]

- Q. 5 (a) Answer the Following.
- (i) How can we extract Classification Rules from Decision Trees? [04]
 - (ii) List out the Commercial Data Mining Systems with its importance. [03]
- (b) Answer the Following.
- (i) Explain applications of Data Mining in Intrusion Detection. [04]
 - (ii) Give Example of Nominal, Ordinal and Ratio–Scaled Variables. [03]

OR

- Q. 5 (a) Answer the Following.
- (i) What is the importance of Data Mining in Financial Data Analysis? [04]
 - (ii) How to categorize the Clustering Methods? [03]
- (b) Answer the Following.
- (i) How to judge a classifier, only the Accuracy is enough to judge it? [04]
 - (ii) Which are the key–features for the selection of Data Mining System? [03]

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