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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]

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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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