

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

MCA (2012 & Onward) (Sem.-4)
DATA WAREHOUSING AND MINING

Subject Code : MCA-401

Paper ID : [A2555]

Time : 3 Hrs.

Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. **SECTIONS-A, B, C & D contains TWO questions each carrying TWENTY marks each and students has to attempt any ONE question from each SECTION.**
2. **SECTION-E is COMPULSORY consisting of TEN questions carrying TWENTY marks in all.**

SECTION-A

1.
 - a. Discuss the difference between operational database system and data warehouse.
 - b. Discuss MDDM and its schemas.
2.
 - a. Discuss the different components of data warehouse with the help of diagram.
 - b. Explain the three tier architecture of data warehouse.

SECTION-B

3. Discuss in detail temporal extension of multidimensional model. Elaborate the advantage of temporal hierarchies.
4.
 - a. Discuss fact relationships. What is the significance of temporal support for levels?
 - b. Discuss various conceptual models for temporal data warehouse.

SECTION-C

5. Explain various data mining functionalities. Discuss Bayesian belief networks in context of naive Bayesian classification.
6. Discuss in detail k-nearest neighbor and case based reasoning classification methods of data mining.

SECTION-D

7. What is prediction? Give an account on linear and multiple regression methods used in prediction.
8. What are the problems that can occur when clustering is applied to real world database? Compare and contrast various clustering methods.

SECTION-E

9. **Write briefly :**
 - a. What is Big data?
 - b. Why data preprocessing is needed?
 - c. What is rough set approach?
 - d. List types of data in cluster analysis.
 - e. Define spatial data warehouse.
 - f. List major data warehouse applications.
 - g. What is topological relationship?
 - h. Give example of nominal and ordinal variables.
 - i. What is the main difference between classification and prediction?
 - j. Explain predictive mining.