

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. What is a Data Warehouse? Discuss in detail the need for a data warehouse.
2. What are the components of Data Warehouse? Discuss the three-tier data warehouse architecture.

SECTION-B

3. What do you mean by temporal data and temporal data warehouse? What are the essential characteristics of temporal data and temporal data warehouses?
4. Elaborate the multi-dimensional data model with temporal extension.

SECTION-C

5. Define Data Mining. Explain various data mining functionalities in detail.
6. State Baye's theorem and explain Bayesian belief network in detail.

SECTION-D

7. What is the role of prediction in data mining? What are the various prediction techniques? Discuss any one in detail.
8.
 - a) What are the different types of data used in cluster analysis? Explain in brief each one with an example.
 - b) Define nominal, ordinal, and ratio-scaled variables.

SECTION-E

9. Write briefly :

- a) Differentiate between operational and informational databases.
- b) What is multidimensional data model? Give examples.
- c) Explain Spatial data warehouses.
- d) What is metadata and why is it important?
- e) Define temporal granularity.
- f) Why do we need to preprocess data?
- g) What is Clustering?
- h) What is case based reasoning?
- i) Distinguish between classification and clustering.
- j) What are two strategies to increase classifier accuracy?