

**Total No. of Questions : 09**

**M.Sc.(IT) (2015 Onwards) (Sem.-4)**  
**DATA WAREHOUSING AND DATA MINING**  
**Subject Code : MSIT-404**  
**M.Code : 74116**

**Time : 3 Hrs.**

**Max. Marks : 60**

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

1. Explain MDDM Schemas suitable for evolving a Data Warehouse with suitable diagram and examples.
2.
  - a) Explain Spatial systems Architecture.
  - b) Differentiate between Conceptual and Implementation Models for Spatial Data.

3. Discuss Temporal Data Warehouse in detail and its Concepts and Data types with suitable examples.
4. Write notes on :
  - a) Temporal Extension for MDDM.
  - b) Temporal Hierarchies.
  - c) Temporal Granularity.

5. What is Classification? Explain the Bayesian Classification with an example.
6. Write notes on following Classification Methods :
  - a) K-Nearest Neighbor
  - b) Rough Set Approach
  - c) Case Based Reasoning.

### SECTION-D

7. a) Write short notes on DBSCAN and Outlier Analysis.  
b) Explain any two hierarchical clustering techniques stating their Pros and Cons.
8. a) Illustrate the K-Means Partitioning Algorithm (Clustering Algorithm) with suitable example.  
b) Differentiate between the Linear and Multiple Regression.

### SECTION-E

**9. Give short answers of the following :**

- a. Define Context Based Data Mining.
- b. What is Meta Learning?
- c. Define Genetic Algorithm.
- d. Define Predictive Model.
- e. Describe challenges to data mining regarding data mining methodology and user interaction issues.
- f. How is a data warehouse different from a database?
- g. What is the need of Synchronization in Temporal Data warehouse?
- h. What is a Back Propagation Method?
- i. List the types of Data used in Cluster Analysis?
- j. List various cloud databases available in the market.

**NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.**