

Roll No.

Total No. of Pages : 02

Total No. of Questions : 09

M.Sc.(IT) (Sem.-4)
DATA WAREHOUSING AND MINING

Subject Code : MSIT-404

M.Code : 74116

Date of Examination : 13-07-22

Time : 3 Hrs.

Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

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.**

SECTION-A

1. Explain various MDDM schemas used for modeling a data warehouse with suitable examples.
2. Explain architecture and data types of a spatial database.

SECTION-B

3. What are the conceptual models for temporal data? Explain.
4. Write notes on :
 - a) Temporal Extension for MDDM.
 - b) Temporal Hierarchies.
 - c) Temporal Granularity.

SECTION-C

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

SECTION-D

7. Apply any hierarchical clustering algorithm for clustering the following eight points. Determine the clusters with their elements. The distance function is Euclidean distance
 $A_1(2,10)$, $A_2(2,5)$, $A_3(8,4)$, $A_4(5,8)$, $A_5(7,5)$, $A_6(6,4)$, $A_7(1,2)$, $A_8(4,9)$.
8. Explain linear and multiple regression methods used for prediction.

SECTION-E

9. Write briefly :
 - a) How is a data warehouse different from a database?
 - b) List the types of Data used in Cluster Analysis.
 - c) What is Context Based Data Mining?
 - d) Discuss K-Means clustering algorithm.
 - e) Discuss Temporal data types.
 - f) What is data cleaning? How it is done?
 - g) Discuss Bayesian classification.
 - h) Distinguish between Classification and Clustering.
 - i) What do you mean by Big Data? Write its main characteristics.
 - j) What are Nominal and Ordinal variables? Give examples.

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.