MCA
(SEM IV) THEORY EXAMINATION 2017-18
DATA WAREHOUSING AND MINING

Time: 3 Hours   *Total Marks: 70*

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1.   **Attempt *all* questions in brief.**   2 x 7 = 14

    a.   Define Data Warehouse.
    b.   What is Client Server Computing?
    c.   List various functionalities of Data Mining.
    d.   Differentiate between Inliers and Outliers.
    e.   How to handle missing values for data cleaning?
    f.   Define Bayes Theorem.
    g.   Define Numerosity Reduction.

SECTION B

2.   **Attempt any *three* of the following:**   7 x 3 = 21

    a.   Explain Multidimensional Data Model with an example.
    b.   Explain 2-tier client server architecture. What are its characteristics.
    c.   What are different stages of Knowledge Discovery (KDD). Explain with the help of diagram.
    d.   What do you mean by Association Rules? For what purposes these are being used? Explain with an example.
    e.   List and explain various types of OLAP servers.

SECTION C

3.   **Attempt any *one* part of the following:**   7 x 1 = 7

    (a)   Name four distinguishing characteristics of Data Warehouse architecture. Describe each component briefly.
    (b)   Differentiate between Star Schema & Snow Flake Schema.

4.   **Attempt any *one* part of the following:**   7 x 1 = 7

    (a)   Describe various phases of data transformation. List the important types of transformation engines and explain any one of them.
    (b)   Why business organizations consider data warehousing as a critical need? Write and explain various phases involved in building of data warehouse.

5.   **Attempt any *one* part of the following:**   7 x 1 = 7

    (a)   Explain ETL process in detail.
    (b)   Give a brief description of the following:
        1) Binning
        2) Regression

6.   **Attempt any *one* part of the following:**   7 x 1 = 7

    (a)   What do you mean by neural network? Explain multilayer Feed-Forward neural network.

    (b)   What do you mean by decision tree? Describe ID3 algorithm of decision tree.

7.   **Attempt any *one* part of the following:**   7 x 1 = 7

    (a)   What is Web mining? What are the classification factors of web mining ?

    (b)   Write short notes on the following:
        1) Slice & Dice Operation
        2) Testing of Data Warehouse