Fourth Semester MCA Degree Examination, Dec.2019/Jan.2020
Data Warehousing and Data Mining

Time: 3 hrs. Max. Marks:100

Note: *Answer any FIVE full questions.*

1 a. Describe Data Warehouse and state its properties. Explain the Data Warehouse architecture with the help of a diagram. (05 Marks)
   b. Differentiate between OLAP and OLTP systems. (07 Marks)
   c. What is a Data Cube? With the help of an example, explain the different operations that can be performed on a Data cube. (08 Marks)

2 a. Define Data Mining. What are the motivating challenges of Data Mining? (06 Marks)
   b. Explain the different Data Mining tasks. (06 Marks)
   c. Describe the different issues of Data Mining. (08 Marks)

3 a. What are the different types of Data? (04 Marks)
   b. State the different Applications of Data Mining. (04 Marks)
   c. What do you understand by Data preprocessing? Explain the major tasks of Data Preprocessing. (12 Marks)

4 a. Explain in detail the steps for mining Association rules. (06 Marks)
   b. Write short notes on : i) i) Apriori Algorithm   ii) Maximal Frequent Itemset. (10 Marks)
   c. Describe the alternative methods for generating frequent itemsets. (04 Marks)

5 a. What do you understand by classification? With the help of diagram, explain the general approach to solve classification problem. (04 Marks)
   b. Describe the general structure of the Hunt's algorithm for Decision Trees. (08 Marks)
   c. Explain the different steps of Bayesian classifier. (08 Marks)

6 a. What are Rule – based classifiers? Explain the different characteristics of Rule – based classifier. (04 Marks)
   b. Describe the different methods for estimating classifiers accuracy. (10 Marks)
   c. State the different strategies for reducing the problem of multiclass classification to multiple binary classification problems. (06 Marks)

7 a. What do you understand by Cluster Analysis? State its different Applications. Explain the types of Data in Cluster Analysis. (06 Marks)
   b. Describe the different methods of measuring distance in Cluster Analysis. (05 Marks)
   c. Write short notes on the different types of Clustering methods. (09 Marks)

8 a. Define Outliers? What are the different types of Outliers? State the Applications of an Outlier. (06 Marks)
   b. Explain the Classification based method for Outliers Analysis. (10 Marks)
   c. What are the different challenges of Outliner Detection? (04 Marks)

* * * * *

1 8 DEC 2019