*Total No. of Questions : 8]*          *[Total No. of Printed Pages : 2*

**Roll No** .................................

# MCA-501
## M.C.A. V Semester
Examination, June 2020
## Data Warehousing and Mining

*Time : Three Hours*

*Maximum Marks : 70*

*Note:* i)  Attempt any five questions.

   ii)  All questions carry equal marks.

1.  a)  What is Data Mining? Discuss the major issues in Data mining.                                                    7

   b)  What is Data Mining functionalities? Explain different types of Data Mining functionality with example.     7

2.  a)  Draw the diagram and explain the architecture of Data Mining system.                                           7

   b)  What is Data warehouse? How is it different from an operational database? Explain data marts.               7

3.  a)  Discuss 3 tier data warehouse architecture and explain ROLAP, MOLAP and HOLAP servers.                     7

   b)  Explain the term OLAP. Discuss data cube technology in brief.                                                7

4.  a)  Write in details about the key components of data warehouse.                                                   7

   b)  What is data transformation? Explain the different methods of data transformation.                          7

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5. a) Explain the data discretization and concept hierarchy generation. 7

   b) How can we apply data reduction technique? Explain. 7

6. a) Explain in detail how we generate association rules from frequent itemsets with the help of an example. 7

   b) Describe in detail the Apriori algorithm. List various ways used to improve the efficiency of Apriori algorithm. 7

7. a) Discuss the detailed concept of mining multi-dimensional association rules from relational databases. 7

   b) What is the difference between clustering and prediction? List out some of the issues regarding clustering and prediction. 7

8. a) Define Clustering. Also mention the various requirements and applications of clustering. 7

   b) Write short notes. 7

      i)  K-means clustering

      ii) K-medoids algorithms

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