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# P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belagavi)

Fourth Semester, Master of Computer Applications (MCA)

Semester End Examination; May / June - 2019

Data Warehouse and Data Mining

Time: 3 hrs

Max. Marks: 100

Note: Answer **FIVE** full questions, selecting **ONE** full question from each unit.

## UNIT - I

- 1 a. Explain different steps of Data Cleaning. 10
- b. Explain the guidelines for OLAP implementation. 10
- 2 a. Explain the steps for building Data Warehouse. 10
- b. Explain the different operations performed on Data Cubes. 10

## UNIT - II

- 3 a. What is Data Mining? With a neat sketch, explain the process of Knowledge discovery in database. 10
- b. What is an attribute? Explain different types of attributes with example. 10
- 4 a. What is sampling? List and explain different types of sampling techniques with example. 10
- b. Explain the motivation challenges for development of Data Mining. 10

## UNIT - III

- 5 a. Discuss the Apriori algorithm for frequent itemset generation. 10
- b. Explain briefly the alternative methods for generating frequent itemsets. 10
- 6 a. Explain different steps involved in subsequent extension of FP-tree. 10
- b. Explain how association patterns are evaluated? 10

## UNIT - IV

- 7 a. List the different characteristics of decision tree induction. 10
- b. Explain rule-based classification technique and list the characteristics. 10
- 8 a. State Hunts Algorithm. Explain how Hunts algorithm will work for inducing decision tree with a neat diagram? 10
- b. Write an algorithm for K-nearest neighbor classification. Elaborate on characteristics of nearest-neighbor classifier. 10

## UNIT - V

- 9 a. List and explain the desired features of cluster analysis. 10
- b. Explain the steps involved in agglomerative method of clustering. 10
- 10 a. Explain the different types of cluster analysis methods. 10
- b. Discuss the following clustering algorithm : 10
  - i) K-means
  - ii) DBSCAN