



U.S.N

--	--	--	--	--	--	--	--	--

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

(An Autonomous Institution affiliated to VTU, Belgaum)

First Semester, M. Tech - Computer Engineering (MCEN)

Make-up Examination; July - 2016

**Data Warehousing and Mining**

Time: 3 hrs

Max. Marks: 100

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

### UNIT - I

- 1 a. Define data warehouse. Explain the benefits of implementation of data warehouse. 10
- b. Define data mining. List and explain the different challenges of data mining. 10
- 2 a. With suitable example, explain different types of schemas used in multi dimensional model. 10
- b. Explain the process of Knowledge Discovery in Database (KDD). List the two categories of data mining risks. 10

### UNIT - II

- 3 a. Illustrate a skeleton decision tree induction algorithm and explain their functions. 10
- b. Describe rule based classifier, explain how a rule-based classifier works. 10
- 4 a. Define classification. Write the algorithm and characteristics of nearest-neighbor classifier. 10
- b. Discuss the methods used to measure the performance of a classifier. 10

### UNIT - III

- 5 a. Write Apriori algorithm. Generate all the frequent item sets for the transactions in table 5(a), using Apriori algorithm. Assume minimum support = 2.

TID	Items
100	I <sub>1</sub> I <sub>3</sub> I <sub>4</sub>
200	I <sub>2</sub> I <sub>3</sub> I <sub>5</sub>
300	I <sub>1</sub> I <sub>2</sub> I <sub>3</sub> I <sub>5</sub>
400	I <sub>2</sub> I <sub>5</sub>

- b. Explain FP growth algorithm to find frequent item set. Give an example. 10
- 6 a. Discuss the evaluation of association patterns. 10
- b. Discuss the computational complexity of Apriori algorithm. 10

### UNIT - IV

- 7 a. Define cluster analysis. What are the different types of clusters? 10
- b. Write and explain DBSCAN algorithm. 10
- 8 a. Explain how proximity is measured between the clusters in agglomerative hierarchical clustering. 10
- b. What is spatial data mining? Explain how spatial data cube can be constructed. 10

**UNIT - V**

- 9 a. Consider a scenario of data mining and discuss a social impact in that system. 10
- b. Explain the trends that made data mining powerful with an example. 10
- 10 a. Explain in detail about multimedia, data mining applications. 10
- b. What is web mining? Explain the techniques used in web mining. 10

\* \* \* \*