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

(An Autonomous Institution affiliated to VTU, Belgaum)

First Semester, M. Tech - Computer Science and Engineering (MCSE)

Semester End Examination; Jan - 2017

Data Warehousing 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. What is Data mining? Explain the challenges that motivated the development of Data mining. 10

b. With neat diagram, explain the process of KDD (Knowledge Discovery in Database). 5

c. Bring out any five differences between OLTP and OLAP systems. 5

2 a. With suitable example, explain different types of schemas used in multidimensional model. 8

b. Explain various data mining task with example. 6

c. With neat diagram, explain recommended approach for Data Warehouse development. 6

UNIT - II

3 a. Explain the difference between nominal attribute and ordinal attribute. 4

b. Explain rule based classifier and its characteristics. 8

c. Write Hunt's algorithm and illustrate it's working. 8

4 a. Define classification. Write the algorithm and characteristics of Nearest Neighbor classifiers. 10

b. With suitable example, discuss two strategies used to avoid model over fitting in the context of decision tree induction. 6

c. Describe various methods used to evaluate the performance of a classifier. 4

UNIT - III

5 a. Consider the following transaction data set : 10

TID	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Items	**{a, b}**	**{b, c, d}**	**{a, c, d, e}**	**{a, d, e}**	**{a, b, c,}**	**{a, b, c, d}**	**{a}**	**{a, b, c}**	**{a, b, d}**	**{b, c, e}**

Construct the FP tree. Show the trees separately after reading each transaction.

b. What is Apriori principle? Explain. 6

c. Define the terms : 4

i) Support ii) Confidence.

6 a. Discuss the evaluation of association pattern. 10

b. Discuss the factors affected by computational complexity of Apriori Algorithm. 10

Contd….2

UNIT - IV

7 a.	Define Cluster Analysis. What are the different types of Clusters?		10
b.	Explain the concepts of core points, border points and noise points with respect to DB SCAN.		6
c.	Write basic K-Mean algorithm.		4
8 a.	Define spatial database and explain dimensions and measures used in spatial data cube with example.		7
b.	Explain two types of hierarchical clustering methods.		8
c.	Define the following :		
	i) Exclusive	ii) Overlapping	iii) Fuzzy	5
	iv) Complete clustering	v) Partitional clustering.	

UNIT - V

9 a.	What is multimedia data mining? List the different multimedia data mining methods and explain any one of them.	12
b.	Define text mining. Explain different text mining approaches with suitable example.	8
10 a	Explain the trends that made data mining powerful with an example.	10
b.	Discuss the features that are used to choose a data mining system.	10

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