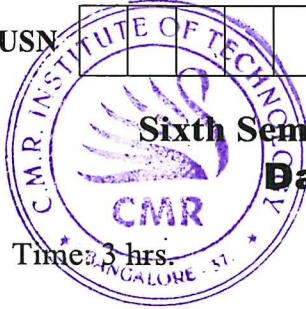


CBCS SCHEME

15CS651

USN

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Sixth Semester B.E. Degree Examination, July/August 2021 Data Mining and Data Warehousing

Time: 3 hrs.

Max. Marks: 80

Note: Answer any FIVE full questions.

- 1 a. What is Data Warehousing? Explain multitier architecture with neat diagram. (08 Marks)
b. Describe multidimensional data model and a cube with neat sketches. (08 Marks)
- 2 a. Explain OLAP operations with examples. (10 Marks)
b. What are Data warehouse models? Explain. (06 Marks)
- 3 a. Explain OLAP server Architecture? (09 Marks)
b. What is data mining? What are motivating challenges of data mining? Explain. (07 Marks)
- 4 a. Explain different types of data in Data mining. (10 Marks)
b. Explain data preprocessing steps. (06 Marks)
- 5 a. Develop the Apriori Algorithm for frequent itemset generation. (08 Marks)
b. Consider the transaction data set :

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

Construct the FP tree by showing the trees separately after reading each transaction.

(08 Marks)

- 6 a. Explain frequent itemset generation and rule generation with reference to Apriori algorithm. (10 Marks)
b. Explain the various measures of evaluating association patterns. (06 Marks)
- 7 a. Write Hunts algorithm and illustrate its working with an example. (08 Marks)
b. Explain rule based classifier and its characteristics. (08 Marks)
- 8 a. Explain decision tree induction algorithm for classification. (08 Marks)
b. What are Bayesian classifiers? Explain Baye's theorem for classification. (08 Marks)
- 9 a. What is cluster analysis? Explain different types of clustering's. (08 Marks)
b. Explain K-means clustering algorithm. (08 Marks)
- 10 a. What is cluster? Explain three different types of clusters. (08 Marks)
b. Explain DBSCAN clustering algorithm. (08 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.