U.S.N.										

B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

September / October 2023 Supplementary Examinations

Programme: B.E. **Semester: V**
Branch: Artificial Intelligence and Machine Learning **Duration: 3 hrs.**
Course Code: 22AM5PEKDI **Max Marks: 100**
Course: Knowledge Discovery **Date: 12.09.2023**

Instructions: 1. Answer any FIVE full questions, choosing one full question from each unit.
2. Missing data, if any, may be suitably assumed.

UNIT - I

1	a)	Explain the major issues in data mining in detail.	10
	b)	Elaborate Multitiered architecture of data warehouse with help of diagrammatic representation.	10

UNIT - II

2	a)	Define Data warehouse. List and explain types of data warehouse with an example for each.	10
	b)	Illustrate the pros and cons of the top-down and bottom-up approach of data warehouse and recommend an approach for data warehouse with help of a diagram.	10

OR

3	a)	Define data cube. Illustrate multi-dimensional data model with help of diagram.	10
	b)	Elucidate with diagrammatic representation, the concept OLAP Operations.	10

UNIT - III

4	a)	Illustrate the apriori algorithm with basic two step and deduce the iteration with an example.	10
	b)	Elaborate Pattern-Growth Approach for Mining Frequent Item set.	10

OR

5	a)	Justify the Mining Frequent Itemset using the Vertical Data Format and horizontal data format.	10

b) 10

Transaction ID	Items Purchased
1	I2, I1,I5
2	I2, I4
3	I2, I3
4	I2, I1, I4
5	I1, I3
6	I2, I3
7	I1, I3
8	I2, I1, I3, I5
9	I2, I1, I3

Plot the Frequent Pattern Tree for the above transaction and generate the frequent patterns for the I4 and I3.

UNIT - IV

6 a) Analyze k-means algorithm with an example in detail 10

b) Define Cluster. Cluster is represented by various methods, elucidate the overview of those methods. 10

UNIT-V

7 a) Define STING Clustering. Justify the process of STING with an example. 10

b) Illustrate CLIQUE with an example in detail. 10

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