Roll No...

B.TECH. EXAMINATION June-2023

Subject Code: 160616/230602/240602 **Subject Title:** Data Mining & Pattern Warehousing

Time: 2 Hours 160612 Maximum Marks: 50

Note:	1. *Answer all five questions. All questions carry equal marks.* 2. *In each question part a & b are compulsory and part c has internal choice. Out of which a & b carry 2 marks and part c carry 6 marks.* 3. *All parts of each question are to be attempted at one place. Assume suitable value for missing data, if any.*

Question Number	Question	Marks	Course Outcome mapped	Blooms Level
Q.1 (a)	What is the relation between data warehousing and data mining?	02	CO1	Understanding
(b)	What are the application areas of data Mining?	02	CO2	Remembering
(c)	Discuss about Data Mining Task primitives with examples?	06	CO3	Applying
	OR			
(d)	Explain about data mining as a step in the process of knowledge discovery	06	CO2,CO3	Applying
Q.2 (a)	How is data warehouse different from a database? How are they similar?	02	CO2	Remembering
(b)	Differentiate between ROLAP and HOLAP.	02	CO2	Analyzing
(c)	List the various forms of data pre-processing and Describe the data reduction techniques.	06	CO2,CO3	Applying
	OR			
(d)	Write in brief about schemas in multidimensional data model and three tier architecture of data warehouse.	06	CO2,CO3	Applying
Q.3 (a)	What do you mean by Market Basket analysis.	02	CO4	Understanding
(b)	Define briefly Constraint Based Association Rule Mining.	02	CO4	Remembering
(c)	What are the draw backs of Apriori Algorithm? Explain about FP Growth Concept in Detail.	06	CO3,CO4	Evaluating
	OR			
(d)	(see table below)	06	CO3,CO4	Evaluating

Transaction Id	Items
T1	Apple, Banana, Orange
T2	Apple, Banana
T3	Apple, Mango, Grape
T4	Mango, Grape
T5	Grape, Orange
T6	Apple, Mango, Grape

	Find the frequent itemsets and generate association rules using Apriori Algorithm. Assume that minimum support threshold (s = 33.33%) and minimum confident threshold (c = 60%)			
Q.4 (a)	Write the key issue in hierarchical clustering algorithm briefly.	02	CO5	Understanding
(b)	List the characteristics of k-nearest neighbor algorithm	02	CO5	Remembering
(c)	How does the Naïve Bayesian classification works? Explain in detail	06	CO4	Analyzing
	OR			
(d)	Classify various Clustering methods. Write any one Partitioning based clustering methods.	06	CO4,CO5	Applying
Q.5 (a)	Write the benefits of pattern warehousing	02	CO6	Remembering
(b)	Differentiate between pattern warehousing & data Warehousing shortly.	02	CO6	Analyzing
(c)	Using appropriate example describe the concept of pattern warehousing in the implementation of application for supermarket.	06	CO6	Applying
	OR			
(d)	Write short notes on following: 1. Profitable Pattern Mining, 2. Hesitation Mining, 3. Types of Pattern Warehouses	06	CO5,CO6	Applying