R22 Regulation *Subject code:4E4HA*

TKR COLLEGE OF ENGINEERING AND TECHNOLOGY

(Autonomous, Accredited by NAAC with 'A+' Grade)

B.Tech IV Semester Regular/Supplementary Examinations, June 2026

DATA WAREHOUSING & DATA MINING

(CSE(DS))

Maximum Marks: 60 Date:08.06.2026 Duration: 3 hours

Note: **1.This question paper contains two parts A and B.**
2. Part A is compulsory which carries 10 marks. Answer all questions in Part A.
3. Part B consists of 5 Units. Answer any one full question from each unit.
4. Each question carries 10 marks and may have a, b, c, d as sub questions.

Part-A

All the following questions carry equal marks (10X1M=10 Marks)		Marks	CO	Bloom Tx
1.a)	What are Data warehouse Characteristics?	1M	1	1
b)	Discuss HOLAP architecture.	1M	1	2
c)	What are the major challenges faced in Data Mining.	1M	2	2
d)	What is discretization?	1M	2	1
e)	State the APRIORI principle.	1M	3	1
f)	Compare FP-Growth and APRIORI algorithms.	1M	3	2
g)	Discuss real-world applications of classification techniques	1M	4	2
h)	What is a Bayesian Belief Network?	1M	4	1
i)	Define clustering problem.	1M	5	1
j)	What is dendrogram representation in hierarchical clustering?	1M	5	2

Part-B

Answer All the following questions. (5X10M=50Marks)		Marks	CO	Bloom Tx
2	a) Describe the components of a data warehouse architecture with a neat diagram. b) Differentiate between fully additive, semi-additive, and non-additive measures.	5M 5M	1	3
	OR			
3	a) Explain Star and Snowflake Schema with a suitable example. b) Explain OLAP operations with examples.	5M 5M	1	3
4	a) Explain the Knowledge Discovery in Databases (KDD) process with a neat diagram. b) Differentiate between predictive and descriptive data mining tasks.	5M 5M	2	2
	OR			
5	a) Discuss Feature subset selection process with a neat flowchart. b) Explain similarity and dissimilarity measures with examples.	5M 5M	2	3

6	Explain the APRIORI algorithm with a suitable example.	10M	3	3
	OR			
7	a) Describe the construction of an FP-tree. b) Explain maximal frequent item sets with examples.	5M 5M	3	3
8	a) Explain the general approach for solving a classification problem. b) Explain methods for selecting attribute in Decision Tree construction.	5M 5M	4	3
	OR			
9	a) Discuss Naïve Bayes theorem and apply on a classification problem. b) Describe the working procedure of KNN with an example.	5M 5M	4	4
10	a) Explain the K-Means clustering algorithm with a suitable example. b) Address the additional issues associated with K-Means clustering?	5M 5M	5	3
	OR			
11	a) Explain steps in Bisecting K-Means algorithm. b) Discuss Basic Agglomerative Hierarchical Clustering Algorithm with example.	5M 5M	5	3