PAPER ID-410078

Subject Code: KOE093

Roll No: | | | | | | | | | | | | | |

BTECH

(SEM VIII) THEORY EXAMINATION 2023-24

DATA WAREHOUSING & DATA MINING

TIME: 3 HRS **M.MARKS: 100**

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **2 x 10 = 20**

Qno.	Question	Marks	CO
a.	Define Data Warehousing.	2	1
b.	Discuss the Fact Constellation.	2	1
c.	Explain Distributed DBMS implementation.	2	2
d.	Define Warehousing Software.	2	2
e.	Are all the patterns interesting?	2	3
f.	Differentiate between binary symmetric attributes and asymmetric attributes.	2	3
g.	Find the mode of the following dataset: 12,13,34,32,21,29,40,11,39,23. What is the advantage of mode over mean and median?	2	4
h.	Given two objects represented by the tuples (22, 2, 45, 10) and (20, 10, 26, 2): Compute the Manhattan distance between these two objects.	2	4
i.	What do you mean by Temporal Mining?	2	5
j.	Discuss Data Visualization.	2	5

SECTION B

2. Attempt any *three* of the following: **10 x 3= 30**

a.	Write short notes on: i. Steps of Knowledge Discovery in data ii. Explain Snow Flakes in detail.	10	1
b.	Explain Market Basket Analysis.	10	2
c.	Draw the box-and-whisker plot of the following dataset: 4.3, 5.1, 3.9, 4.5, 4.4, 4.9,5.0, 4.7, 4.1, 4.6, 4.4, 4.3, 4.8, 4.4, 4.2, 4.5, 4.4.	10	3
d.	Cluster the following dataset with points (2,4), (6,8), (1,2), (4,5), (3,5) into two clusters using K-Means algorithm (using Euclidean distance algorithm only).	10	4
e.	Explain ROLAP, MOLAP and HOLAP in detail.	10	5

SECTION C

3. Attempt any *one* part of the following: **10 x 1= 10**

a.	How mapping a 2D table into multidimensional data model? Explain with suitable example.	10	1
b.	Write short notes on: i. Data Characterization and Data Discrimination ii.Snow Flakes in detail.	10	1

4. Attempt any *one* part of the following: **10 x 1= 10**

a.	Differentiate between: (i) Min-Max and Z-score Normalization with examples (ii) Binary data variables and Nominal data variables with examples	10	2
b.	Explain the major components of Data Mining Architecture.	10	2

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5. Attempt any *one* part of the following: **10 x 1= 10**

a.	Discuss Decision tree-based classifiers in detail.	10	3
b.	Classify the tuple X = (age = youth, income = medium, student= yes, credit rating = fair) using Bayes Theorem.	10	3

RID	age	income	student	credit_rating	Class: buys_computer
1	youth	high	no	fair	no
2	youth	high	no	excellent	no
3	middle_aged	high	no	fair	yes
4	senior	medium	no	fair	yes
5	senior	low	yes	fair	yes
6	senior	low	yes	excellent	no

6. Attempt any *one* part of the following: **10 x 1= 10**

a.	Explain various types of clustering methods. Discuss any one partitioning clustering algorithm.	10	4
b.	Discuss DBSCAN clustering algorithm with suitable example.	10	4

7. Attempt any *one* part of the following: **10 x 1= 10**

a.	Differentiate between (a) OLAP and OLTP in detail. (b) Slice and Dice operations with an example.	10	5
b.	Define Spatial Data? How mining of spatial data is done?	10	5