BACHELOR OF TECHNOLOGY (CBCS) (2021-COURSE)

B. Tech. Sem - IV COMPUTER SCIENCE & ENGINEERING AI & ML : SUMMER : 2024

SUBJECT: ITC-II: DATA WAREHOUSING & MINING

Day : Wednesday
Date : 05/06/2024

S-23949-2024

Time : 10:00 AM-01:00 PM
Max. Marks : 60

N.B.

1) All questions are **COMPULSORY**.
2) Figures to the **RIGHT** indicate **FULL** marks.
3) Assume suitable data **WHEREVER** necessary.
4) Draw neat diagrams **WHEREVER** necessary.

Q.1 Explain ETL data warehousing in details with diagram. **(10)**

OR

Q.1 Differentiate between OLTP & OLAP. **(10)**

Q.2 With neat and clean diagram explain schemas for multi dimensional database in details. **(10)**

OR

Q.2 Differentiate between OLAP system and statistical database. **(10)**

Q.3 What is the process of data warehouse design? Explain in details. **(10)**

OR

Q.3 Differentiate between ROLAP, MOLAP and HOLAP **(10)**

Q.4 What is Discretization in data mining? Explain techniques of Data Discretization. **(10)**

OR

Q.4 Explain the steps in KDD with suitable block diagram.

Q.5 A data set has five transaction Let min support = 60% and min – confidence = 80%. Find frequent item sets by using Apiori Algorithm T-ID is the transaction – ID. **(10)**

T –ID	Items Bought
T – 1000	M, O, N, K, E, Y
T – 1001	D, O, N, K, E, Y
T – 1002	M, A, K, E
T – 10003	M, U, C, K, Y
T – 1004	C, O, O, K, E

OR

Q.5 Consider the given data set-Apply Naïve Bayes algorithm and predict that if the fruits has the following properties then which type of fruits it is. Fruit = {Yellow, Sweet, Long}. Frequency table **(10)**

Fruit	Yellow	Sweet	Long	Total
Mango	350	450	0	650
Banana	400	300	350	400
Other	50	100	50	150
Total	**800**	**850**	**400**	**1200**

Q.6 Enlist and explain major clustering methods in details. **(10)**

OR

Q.6 Discuss the agglomerative algorithm using following data and plot a dendrogram using single linkage approach. Following figure contain sample data items indicating the distance between the elements. **(10)**

Item	E	A	C	B	D
E	0	1	2	2	3
A	1	0	2	5	8
C	2	2	0	1	6
B	2	5	1	0	3
D	3	3	6	3	0

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