

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER-VI (NEW) EXAMINATION – SUMMER 2024

Subject Code:3163209

Date:28-05-2024

Subject Name:Data Mining and Business Intelligence

Time:10:30 AM TO 01:00 PM

Total Marks:70

Instructions:

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Simple and non-programmable scientific calculators are allowed.

	Marks
Q.1 (a) Define following terms Data Mart, Enterprise Warehouse, Virtual Warehouse	03
(b) Discuss possible ways for integration of a Data Mining system with a Database or Data Warehouse system.	04
(c) What is Cuboid? Explain various OLAP operations on data cube with example.	07
Q.2 (a) Explain outlier analysis.	03
(b) Define Schema. Explain the following schemas with suitable example. Star, Snowflakes	04
(c) Explain KDD Process in detail.	07
OR	
(c) Explain the major issues in data mining.	07
Q.3 (a) How data mining is useful for banking and finance.	03
(b) List and describe methods for handling missing values in data cleaning.	04
(c) With the help of a neat diagram explain the 3-tier architecture of a data warehouse.	07
OR	
Q.3 (a) How data mining is useful for retail industry.	03
(b) What is noise? Explain data smoothing techniques.	04
(c) Differentiate OLTP and OLAP.	07
Q.4 (a) Draw the topology of a multilayer, feed-forward Neural Network.	03
(b) Write a note on web mining.	04
(c) Explain the steps of the Apriori Algorithm for mining Frequent Itemsets with Candidate Generation. Use a suitable example to illustrate your answer.	07

OR

- Q.4** (a) Briefly explain Linear and Non-linear regression. **03**
(b) Explain text mining using example. **04**
(c) What is Market Basket Analysis? Explain Association Rules with Confidence & Support. **07**

- Q.5** (a) Differentiate Clustering and classification. **03**
(b) Discuss Hash-based technique to improve efficiency of Apriori algorithm. **04**
(c) Explain working of k-Means clustering algorithm. **07**

OR

- Q.5** (a) Briefly explain classification and prediction. **03**
(b) What is clustering? List out the General applications of Clustering. **04**
(c) Explain Hadoop Architecture. **07**
