

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI
(END SEMESTER EXAMINATION)**

**CLASS: MBA
BRANCH: MBA**

**SEMESTER: IV
SESSION: SP/2023**

SUBJECT: MT549 DATA MINING

TIME: 3 Hours

FULL MARKS: 50

INSTRUCTIONS:

1. The paper contains five questions, each of 10 marks and 50 marks.
 2. Attempt all questions.
 3. The missing data, if any, may be assumed suitably.
 4. Ensure you have the correct question paper before attempting the question paper.
 5. Tables/Data handbook/Graph paper to be supplied to candidates in the examination hall.
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- Q.1(a) Describe A Multi-Dimensional View of Data Mining. [5]
Q.1(b) 'Data Mining can act as a Knowledge Discovery Process (KDD)' .. Do you support this statement? If so, validate with business decision-making problem. [5]
- Q.2 Discuss (any TWO) about the Data Mining process: [5x2=10]
a. Data Cleaning for Better Analysis
b. Data Warehousing
c. Data Mining as a research tool
- Q.3(a) Define the basic concepts of Classification we use in Data Mining with a suitable example. [5]
Q.3(b) Distinguish Bayes' Classification Methods and Rule-based Classification Methods. [5]
- Q.4(a) What is Cluster analysis? Explain basic concepts of Partitioning Algorithms. [5]
Q.4(b) Describe the *K-Means* Clustering Method with a decision-based suitable example applicable to management decisions. [5]
- Q.5(a) Discuss the suitability of using a Genetic Algorithm as a Data Mining tool for real-life business problems. [5]
Q.5(b) Mr Nitin has two independent investments, A and B, available but can undertake only one at a time due to certain constraints. He can choose A first and then stop; if A is successful, he can take B or *vice versa*. The probability of success for A is 0.6, while for B, it is 0.4. Both investments require an initial capital outlay of Rs. 10,000, and both return nothing if the venture is unsuccessful. Successful completion of A will return Rs. 20,000 (over cost), and successful completion of B will return Rs. 24,000 (over cost).
1. Draw the Decision Tree of the above problem.
 2. Determine the best strategy for Mr Nitin.

:03/05/2023:M

Alignment of CO and Bloom's Taxonomy (Hierarchical ordering of Cognitive skills)

Question No.	Alignment of CO and Bloom's Taxonomy
1	Develop a clear understanding of concepts of Data Mining as fundamental KDD [CO: (1) knowledge; Module No. 1]
2	Given the Problem, Comprehend the Data Mining process [CO: (2) comprehension; Module No. 2]
3	Explain the algorithmic process used in decision-making in Data Mining. [CO: (3) Explanation; Module No. 3]
4	Explain the mechanism for better data mining tools used in management decisions. [CO: (4) analysis; Module No.4]
5	Analyse how advanced methods of Data Mining tools are best suited for application to Engineering and Management Science. [CO: (5) synthesis / Evaluation; Module No. 5]