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B.Tech. V-Sem. (Main&Back) Examination, November/December - 2025
Artificial Intelligence and Data Science
5AID3-01 Data Mining-Concepts and Techniques
AID, CAI, CDS

Time : 3 Hours | Maximum Marks : 70

Instructions to Candidates:

Attempt all Ten questions from Part A, Five questions out of seven questions from Part B and Three questions out of five questions from Part C.

Schematic diagrams must be shown wherever necessary. Any data you feel missing suitably be assumed and stated clearly. Units of quantities used/calculated must be stated clearly.

Use of following supporting material is permitted during examination.

(Mentioned in form No. 205).

PART - A

(Answer should be given up to 25 words only)

All questions are Compulsory. **(10×2=20)**

1. What is data mining?
2. Name two key functionalities of data mining.
3. List the main steps of the data mining process.
4. Define data preprocessing.
5. What is classification in predictive modeling?
6. What is clustering in descriptive modeling?
7. Mention two advantages of the FP-Growth algorithm over Apriori.
8. What is web mining?
9. Define outlier analysis.
10. Name two social issues related to data mining.

PART - B

(Analytical/Problem Solving Questions)

Attempt any Five questions. **(5×4=20)**

1. Explain the steps in the data mining process with a suitable diagram.
2. Classify data mining systems with examples.

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3. Discuss major issues encountered in data mining.
4. Describe data preprocessing techniques: data cleaning, transformation, and discretization.
5. Explain decision tree induction with a simple example.
6. Write a note on Bayes classification methods.
7. Describe Support Vector Machines (SVMs).

PART - C

(Descriptive/Analytical/Problem Solving/Design Question)

Attempt any Three questions. **(3×10=30)**

1. Compare partitioning vs. hierarchical clustering methods.
2. Describe probabilistic model-based clustering and its applications.
3. Explain the FP-Growth algorithm in frequent pattern mining with an example.
4. Discuss mining in multilevel and multidimensional pattern spaces.
5. Explain real-world applications of web, temporal, and spatial mining.

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