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# B.M.S. College of Engineering, Bengaluru-560019

Autonomous Institute Affiliated to VTU

## August 2024 Supplementary Examinations

**Programme: B.E.**

**Branch: Artificial Intelligence and Machine Learning**

**Course Code: 22AM5PEKDI**

**Course: Knowledge Discovery**

**Semester: V**

**Duration: 3 hrs.**

**Max Marks: 100**

**Instructions:** 1. Answer any FIVE full questions, choosing one full question from each unit.  
2. Missing data, if any, may be suitably assumed.

### UNIT - I

- |   |    |  |    |
|---|----|--|----|
| 1 | a) | Define data mining. Elaborate on data mining functions that can be used for mining patterns. | 10 |
|   | b) | Illustrate Multitier architecture of data warehouse in detail.                               | 10 |

### UNIT - II

- |   |    |  |    |
|---|----|--|----|
| 2 | a) | Illustrate a recommended approach for Data Warehouse Development.        | 8  |
|   | b) | Draw Star schema and fact constellation schema for sales data warehouse. | 12 |

### OR

- |   |    |  |    |
|---|----|--|----|
| 3 | a) | Define measures and dimensions with example. Elucidate categories of measures in detail.   | 10 |
|   | b) | Draw a snowflake schema diagram for the University data warehouse consist of the following four dimensions: student, course, semester, and instructor, and two measures count and avg_grade. | 10 |

### UNIT - III

- |   |    |  |    |
|---|----|--|----|
| 4 | a) | Interpret the Frequent Pattern growth algorithm for discovering frequent item sets without candidate generation. | 10 |
|   | b) | Justify the Apriori algorithm with help of various steps for discovering frequent item set with an example.      | 10 |

### OR

- |   |    |   |    |
|---|----|---|----|
| 5 | a) | Analyze the issues of the Apriori algorithm, Deduce the algorithm to solve the issue.                                   | 10 |
|   | b) | Define vertical and horizontal data format. Differentiate vertical and horizontal data format with an example for each. | 10 |

**Important Note:** Completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages. Revealing of identification, appeal to evaluator will be treated as malpractice.

#### **UNIT - IV**

- |   |    |   |           |
|---|----|---|-----------|
| 6 | a) | Explain the working of the K-means partitioning algorithm with a neat diagram and an example. | <b>10</b> |
|   | b) | Elaborate on DBSCAN algorithm of clustering approach.   | <b>10</b> |

#### **UNIT - V**

- |   |    |   |           |
|---|----|---|-----------|
| 7 | a) | Depict the other data mining methodology in detail.                 | <b>10</b> |
|   | b) | Elucidate about Apriori-like Subspace Clustering Method in detail . | <b>10</b> |

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SUPPLEMENTARY EXAMS 2024