

***Department of Computer Science and Engineering***

**Subject Name: Data Mining**

**Subject Code: MR22-1CS0148**

**Year & Semester: II-II**

Unit-Wise Question Bank

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| **Qno** | **Question** | | **Marks** | **Section** | **UNIT** |
| 1 | What is Data Mining? Explain the key properties of Data Mining? | 8 | | Section-I | 1 |
| 2 | Explain briefly the scope of Data Mining and what kinds of data can be mined? | 8 | | Section-I | 1 |
| 3 | Explain in detail about tasks of Data Mining? | 8 | | Section-I | 1 |
| 4 | Outline about Data Mining Functionalities? | 8 | | Section-I | 1 |
| 5 | Illustrate about Kinds of patterns that can Be mined? | 8 | | Section-I | 1 |
| 6 | Summarize about classification of data mining systems. | 8 | | Section-I | 1 |
| 7 | Outline about data Mining Process. | 8 | | Section-I | 1 |
| 8 | Explain the data mining architecture with neat diagram. | 8 | | Section-I | 1 |
| 9 | Outline about data integration. | 8 | | Section-I | 1 |
| 10 | Illustrate about major Issues in data mining. | 8 | | Section-I | 1 |
| 11 | What is data preprocessing. Explain the steps in data preprocessing. | 8 | | Section-II | 2 |
| 12 | Briefly discusses the forms of data preprocessing with neat diagram. | 8 | | Section-II | 2 |
| 13 | What is data cleaning? What are the different techniques for handling missing values? | 8 | | Section-II | 2 |
| 14 | Outline about the steps for performing data cleaning as a process? | 8 | | Section-II | 2 |
| 15 | Elaborate about the issues that are to be considered when using data integration? | 8 | | Section-II | 2 |
| 16 | Illustrate about Data smoothing Techniques? | 8 | | Section-II | 2 |
| 17 | What is data reduction? Explain about data cube aggregation and selecting a subset of attributes. | 8 | | Section-II | 2 |
| 18 | Briefly discusses about the different techniques that are used for performing data transformation? | 8 | | Section-II | 2 |
| 19 | Elaborate about methods that are used for data discretization. | 8 | | Section-II | 2 |
| 20 | What are the different approaches for binning method? | 8 | | Section-II | 2 |
| 21 | What is a Data Warehouse? How does it differ from Operational Database Systems? | 8 | | Section-III | 3 |
| 22 | Explain the Multi-tiered Architecture of Data Warehousing and the roles played by different tiers. | 8 | | Section-III | 3 |
| 23 | Differentiate between Enterprise Warehouse, Data Mart, and Virtual Warehouse in terms of Data Warehouse Models. | 8 | | Section-III | 3 |
| 24 | What is a Data Cube, and how does it contribute to Multidimensional Data Modelling? | 8 | | Section-III | 3 |
| 25 | Compare the Stars, Snowflakes, and Fact Constellations as schemas for Multidimensional Data Models. | 8 | | Section- III | 3 |
| 26 | Outline about Typical OLAP Operations. | 8 | | Section- III | 3 |
| 27 | Explain key differences between OLTP and OLAP systems. | 8 | | Section- III | 3 |
| 28 | Outline about Data Warehouse Design Process and usage. | 8 | | Section- III | 3 |
| 29 | Explain the Implementation of A Data Warehouse. | 8 | | Section- III | 3 |
| 30 | Elaborate about basic approaches for Data generalization. | 8 | | Section-III | 3 |
| 31 | What is classification? How does classification work? | 8 | | Section-IV | 4 |
| 32 | Elaborate about classification by decision tree induction with an example. | 8 | | Section-IV | 4 |
| 33 | Explain in detail about Bayes theorem with an example. | 8 | | Section-IV | 4 |
| 34 | Elaborate about Navie Bayes classifier. | 8 | | Section-IV | 4 |
| 35 | Outline about Rule-based classifier. | 8 | | Section-IV | 4 |
| 36 | Summarize about Rule Extraction from a Decision Tree. | 8 | | Section-IV | 4 |
| 37 | Outline about Rule Induction Using a Sequential Covering Algorithm. | 8 | | Section-IV | 4 |
| 38 | Explain in detail about Model Evaluation and Selection. | 8 | | Section- IV | 4 |
| 39 | Explain in detail about bagging and boosting Technique with an example. | 8 | | Section- IV | 4 |
| 40 | Explain in detail Random Forest Technique to improve classification accuracy with an example. | 8 | | Section- IV | 4 |
| 41 | What is cluster analysis? How does it differ from other types of techniques, such as classification and regression? | 8 | | Section-V | 5 |
| 42 | Elaborate about requirements for cluster analysis? | 8 | | Section-V | 5 |
| 43 | Provide an overview of basic clustering methods in data mining. | 8 | | Section-V | 5 |
| 44 | What are the partitioning methods in cluster analysis? | 8 | | Section-V | 5 |
| 45 | Explain the process in the k-means: A centroid-based clustering algorithm. | 8 | | Section-V | 5 |
| 46 | Explain the k-Medoids clustering algorithm in the field of unsupervised learning. | 8 | | Section-V | 5 |
| 47 | Explain the concept of hierarchical clustering. What are the main differences between aggregation and divisive hierarchical clustering methods? | 8 | | Section-V | 5 |
| 48 | Explain the different distance measures in cluster algorithmic methods? | 8 | | Section-V | 5 |
| 49 | Explain BIRCH: Multiphase Hierarchical Clustering Using Clustering Feature Trees. | 8 | | Section-V | 5 |
| 50 | What is the difference between partitioning and hierarchical clustering? | 8 | | Section-V | 5 |