SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES.
(AUTONOMOUS)
MCA DEPARTMENT

QUESTION BANK

Subject Name : Data Mining and Business Intelligence

Subject Code : **24MCA125A** **Year & Sem :I & II**

SREENIVASA INSTITUTE OF TECHNOLOGY AND MANAGEMENT STUDIES.

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CHITTOOR

DEPARTMENT OF MASTER OF COMPUTER APPLICATIONS

QUESTION BANK

For

DATA MINING AND BUSINESS INTELLIGENCE (24MCA125A)

Regulation – 2024

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Prepared by

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S. No	QUESTIONS	Blooms Taxonomy Level
	UNIT -I	
UNIT- I: INTRODUCTION Why reporting and Analysing data, Raw data to valuable information-Lifecycle of Data - What is Business Intelligence - BI and DW in today's perspective - What is data warehousing - The building Blocks: Defining Features - Data warehouses and data 1marts - Overview of the components - Metadata in the data warehouse - Need for data warehousing - Basic elements of data warehousing - trends in data warehousing		
	Part –A	
1.	What is raw data?	
2.	Define Business Intelligence.	
3.	What is the purpose of analyzing data?	
4.	Mention any two features of data warehouses.	
5.	What do you mean by data mart?	
6.	Define metadata in the context of data warehousing.	
7.	What is the need for data warehousing?	
8.	Name any two components of a data warehouse.	
9	What is the relationship between Business Intelligence and Data Warehousing?	
10	List any two trends in data warehousing.	
	Part - B	
1	Explain the lifecycle of data and how raw data is transformed into valuable information.	
2	Discuss the importance of Business Intelligence and its role in modern organizations.	
3	What is data warehousing? Describe its basic elements and the need for it.	
4	Explain the architecture and components of a data warehouse with a neat diagram.	
5	What are the defining features of a data warehouse? How is it different from a data mart?	
6	Describe the relationship between Business Intelligence and Data Warehousing in today's context.	
7	Explain the role and importance of metadata in data warehousing.	
8	Discuss current trends in data warehousing and their impact on business decision-making.	

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UNIT -II		
UNIT- II: BI AND DW ARCHITECTURES BI and DW architectures and its types - Relation between BI and DW - OLAP (Online analytical processing)definitions - Difference between OLAP and OLTP - Dimensional analysis - What are cubes? Drill-down and roll-up - slice and dice or rotation - OLAP models - ROLAP versus MOLAP - defining schemas: Stars, snowflakes and fact constellations		
Part - A		
1	What is the full form of OLAP?	L1
2	Define OLTP.	L1
3	What is a data cube in OLAP?	L2
4	Write one difference between OLAP and OLTP.	L2
5	What is dimensional analysis?	L1
6	Define drill-down and roll-up operations in OLAP.	L1
7	What is slicing and dicing in OLAP?	L2
8	Define ROLAP and MOLAP.	L2
9	What is a star schema?	L1
10	What is a fact constellation schema?	L1
11	What is the full form of OLAP?	L1
Part – B		
1	Explain the BI and DW architectures and describe various types.	L2,L4
2	Discuss the relationship between Business Intelligence and Data Warehousing with examples.	L2,L3
3	Define OLAP. Differentiate between OLAP and OLTP with suitable examples.	L2,L4
4	Explain dimensional analysis in detail with the help of a data cube example.	L3,L4
5	Describe OLAP operations: drill-down, roll-up, slice, dice, and rotation with suitable illustrations.	L3,L4
6	Compare ROLAP and MOLAP. Mention advantages and disadvantages of each.	L4
7	Describe various OLAP models in detail.	L2,L4
8	Explain different types of schemas in data warehousing: star, snowflake, and fact constellation with diagrams.	L2,L4

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UNIT- III		
UNIT- III:ISSUES IN DM – KDD PROCESS Motivation for Data Mining - Data Mining-Definition and Functionalities – Classification of DM Systems -DM task primitives - Integration of a Data Mining system with a Database or a Data Warehouse - Issues in DM – KDD Process		
Part - A		
1	What is data mining?	L1
2	Mention any two functionalities of data mining.	L1
3	List any two issues in data mining. r	L1
4	Define KDD (Knowledge Discovery in Databases).	L1
5	What is the motivation for data mining?	L2
6	Mention two types of data mining systems.	L1
7	Define data mining task primitives.	L1
8	Write any two steps in the KDD process.	L2
9	What is the role of a data warehouse in data mining?	L2
10	State any one challenge in integrating data mining with a database.	Understand L2
Part – B		
1	Explain the motivation for data mining and discuss why it is important in modern organizations.	L2,L4
2	Define data mining. Explain its major functionalities with examples.	L1,L2
3	Classify data mining systems based on various criteria and explain each type.	L2,L4
4	What are data mining task primitives? Describe their role in specifying a data mining query.	L2,L3
5	Explain the integration of data mining systems with databases or data warehouses.	L2,L3
6	Discuss various issues and challenges in data mining.	L4,L5
7	What is the KDD process? Explain each step in the Knowledge Discovery in Databases process in detail.	L2,L4
8	Compare and contrast data mining and KDD. Explain how data mining fits into the KDD process.	L4,L5
UNIT-IV		

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UNIT- IV: DATA PRE-PROCESSING Why to pre-process data? - Data cleaning: Missing Values, Noisy Data - Data Integration and transformation - Data Reduction: Data cube aggregation, Dimensionality reduction - Data Compression – Numerosity Reduction - Data Mining Primitives - Languages and System Architectures: Task relevant data - Kind of Knowledge to be mined - Discretization and Concept Hierarchy.		
Part- A		
1	What is data pre-processing?	L1
2	Mention two methods of handling missing values in a dataset.	L2
3	Define noisy data.	L1
4	What is data integration?	L1
5	What is dimensionality reduction?	L2
6	Mention any one data compression technique.	L1
7	Define numerosity reduction.	L1
8	What are data mining primitives?	L2
9	Define task-relevant data.	L1
10	What is discretization?	L2
Part – B		
1	Why is data pre-processing important in data mining? Explain various steps involved.	L2,L4
2	Describe the different techniques for handling missing values and noisy data during data cleaning.	L2,L3
3	What is data integration and transformation? Explain with suitable examples.	L2,L3
4	Discuss various data reduction techniques such as cube aggregation, dimensionality reduction, and compression.	L4,L5
5	Explain data compression and numerosity reduction techniques with suitable examples.	L2,L4
6	What are data mining primitives? Explain how they help in formulating data mining tasks.	L2,L3
7	Describe the architecture of a data mining system and explain its components.	L4,L5
8	What is discretization? Explain how concept hierarchies are used in data preprocessing.	L2,L3

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UNIT- V		
UNIT- V: DATA GENERALIZATION AND SUMMARIZATION What is concept description? - Data Generalization and summarization-based characterization – Attribute relevance - class comparisons Association Rule Mining: Market basket analysis - basic concepts – Finding frequent item sets: Apriori algorithm - generating rules – Improved Apriori algorithm – IncrementalARM – Associative Classification – Rule Mining		
Part – A		
1	What is concept description?	L1
2	Define data generalization.	L1
3	What is summarization-based characterization?	L2
5	Define attribute relevance.	L1
6	What is class comparison in data mining?	L2
7	Define association rule mining.	L1
8	What is market basket analysis?	L2
9	What is the Apriori algorithm used for?	L1
10	Mention one improvement in the improved Apriori algorithm.	L2
Part – B		
1	What is concept description? Explain data generalization and summarization-based characterization in detail.	L2,L4
2	Explain the relevance of attributes and the method of class comparisons in data summarization.	L2,L5
3	Define association rule mining. Explain market basket analysis with an example.	L2,L3
4	Describe the working of the Apriori algorithm with a suitable example and candidate generation steps.	L3,L4
5	Explain the rule generation process from frequent itemsets using the Apriori approach.	L2,L3
6	Compare Apriori and Improved Apriori algorithms. Explain how efficiency is improved.	L3,L4
7	What is Incremental ARM? How does it differ from traditional ARM approaches?	L2,L4
8	Explain the concept of associative classification. How is it different from traditional classification?	L2,L4