



SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203



DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

(Common to Department of Computer Science & Information Technology)

QUESTION BANK



VI SEMESTER

PAD106 BUSINESS ANALYTICS

Regulation – 2023

Academic Year 2025-2026 (EVEN SEMESTER)

Prepared by

Ms. R. Vaishnavi / Assistant Professor (O.G), AI&DS

Ms. R. Anbuvizhi / Assistant Professor (O.G), CSE

Ms. S. Priya / Assistant Professor (O.G), IT



SRM VALLIAMMAI ENGINEERING COLLEGE

(An Autonomous Institution)

SRM Nagar, Kattankulathur – 603 203



DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

QUESTION BANK

SUBJECT: BUSINESS ANALYTICS

SEM / YEAR: VI SEMESTER/ THIRD YEAR

UNIT 1 INTRODUCTION TO DATA SCIENCE			
Analytics and Data Science – Analytics Life Cycle – Types of Analytics – Business Problem Definition – Data Collection – Data Preparation – Hypothesis Generation – Modelling – Validation and Evaluation – Interpretation – Deployment and Iteration			
PART – A			
Q.No	Question	Level	Competence
1	What is Data Science?	BTL 1	Remember
2	Define the term “analytics life cycle” in your own words.	BTL 2	Understand
3	What is Key Performance Indicators (KPIs)?	BTL 1	Remember
4	Define Data analytics.	BTL 2	Remember
5	What is the main objective of predictive analytics?	BTL 1	Remember
6	What is the primary goal of descriptive analytics?	BTL 1	Remember
7	Why is business problem definition crucial in the analytics process?	BTL 2	Understand
8	What is data warehouse?	BTL 1	Remember
9	What does the term "data preparation" mean in the context of business analytics?	BTL 1	Remember
10	List the types of Business analytics.	BTL 2	Understand
11	How does business analytics differ from traditional business intelligence?	BTL 2	Understand
12	What is the role of interpretation in the analytics process?	BTL 1	Remember
13	Name two common modeling techniques used in business analytics.	BTL 2	Understand
14	Define Data Mining.	BTL 1	Remember
15	What is the difference between validation and evaluation in the analytics process?	BTL 1	Remember
16	What is data cleaning? Why is it necessary?	BTL 1	Remember
17	Define <i>feature engineering</i> with an example.	BTL 1	Remember
18	What is a hypothesis in the context of data science?	BTL 1	Remember

19	Why is hypothesis generation important before modelling?	BTL 2	Understand
20	What is a predictive model? Give one example.	BTL 1	Remember
21	Distinguish between supervised and unsupervised learning models.	BTL 2	Understand
22	Why is interpretability important for business stakeholders?	BTL 2	Understand
23	Define Big Data.	BTL 1	Remember
24	What is the purpose of the deployment phase in analytics?	BTL 1	Remember

PART – B

Q.No	Question	Level	Competence
1	Discuss the analytics life cycle in detail, explaining each stage and its importance in the overall process.	BTL 6	Create
2	Compare and contrast descriptive, predictive, and prescriptive analytics. Provide examples of how each type can be applied in a business context.	BTL 4	Analyze
3	Explain the process of business problem definition in analytics. Why is it crucial to clearly define the problem before proceeding with data collection and analysis?	BTL 5	Evaluate
4	Describe the various methods of data collection in business analytics. What are the advantages and disadvantages of each method?	BTL 3	Apply
5	Discuss the importance of data preparation in the analytics process. What are the key steps involved in preparing data for analysis?	BTL 4	Analyze
6	Explain the concept of hypothesis generation in business analytics. How does it guide the modeling process, and what are some common pitfalls to avoid?	BTL 5	Evaluate
7	Describe the modeling phase in the analytics life cycle. What are some popular modeling techniques, and how do analysts choose the appropriate model for a given problem?	BTL 6	Create
8	Discuss the validation and evaluation processes in analytics. How do these steps ensure the reliability and accuracy of the results?	BTL 4	Analyze
9	Explain the importance of interpretation in business analytics. How can analysts effectively communicate their findings to non-technical stakeholders?	BTL 6	Create
10	Describe the deployment and iteration phases of the analytics life cycle. Why is continuous improvement crucial in business analytics?	BTL 6	Create
11	Discuss the ethical considerations in data collection and analysis for business analytics. How can organizations ensure they are using data responsibly?	BTL 3	Apply
12	Explain the role of data visualization in business analytics. How can effective visualizations enhance decision-making processes?	BTL 6	Create
13	Describe the challenges faced by organizations when implementing business analytics solutions. How can these challenges be overcome?	BTL 4	Analyze
14	Explain the concept of big data and its impact on business analytics. What are the opportunities and challenges presented by big data?	BTL 6	Create
15	Discuss the future trends in business analytics. How do you think the field will evolve in the next 5-10 years?	BTL 4	Analyze
16	Describe the role of machine learning in modern business analytics. How has it transformed the way organizations approach data analysis?	BTL 4	Analyze
17	Discuss the importance of data quality in business analytics. What are some common data quality issues, and how can they be addressed?	BTL 3	Apply

UNIT-II: BUSINESS INTELLIGENCE

Data Warehouses and Data Mart – Knowledge Management – Types of Decisions - Decision Making Process – Decision Support Systems – Business Intelligence – OLAP Analytic functions.

PART – A

Q.No	Question	Level	Competence
1	Define data warehouse.	BTL 1	Remember
2	What is a data mart?	BTL 1	Remember
3	List two types of decisions in business.	BTL 1	Remember
4	What does OLAP stand for?	BTL 1	Remember
5	Define knowledge management.	BTL 1	Remember
6	State two differences between a data warehouse and a data mart.	BTL 2	Understand
7	Define the purpose of a Decision Support System.	BTL 1	Remember
8	What is the significance of Business Intelligence in modern organizations?	BTL 1	Remember
9	How does knowledge management contribute to organizational success?	BTL 1	Remember
10	How can OLAP be applied in a retail business to improve decision-making?	BTL 2	Understand
11	State two differences between operational and analytical decision-making processes.	BTL 2	Understand
12	Design a simple decision-making process for selecting a new product line.	BTL 1	Remember
13	Mention any two types of managerial decisions.	BTL 2	Understand
14	What is problem identification in decision making?	BTL 1	Remember
15	What is evaluation of alternatives?	BTL 1	Remember
16	What is a strategic decision?	BTL 1	Remember
17	What is a programmed decision?	BTL 1	Remember
18	List any two benefits of Business Intelligence.	BTL 2	Understand
19	How does Business Intelligence support decision making?	BTL 2	Understand
20	What are Business Intelligence tools?	BTL 1	Remember
21	Mention any two OLAP operations.	BTL 2	Understand
22	What is a Decision Support System?	BTL 1	Remember
23	Mention any two features of DSS.	BTL 2	Understand
24	What is explicit knowledge?	BTL 1	Remember

PART – B

1	Analyze the evolution of Business Intelligence systems over the past two decades. Discuss how technological advancements have influenced Business Intelligence capabilities and their impact on organizational decision-making.	BTL 4	Analyze
2	Explain the concept of a Data Warehouse. Discuss its characteristics and components.	BTL 3	Apply

3	Evaluate the role of Business Intelligence in gaining competitive advantage. Assess its impact on different industries and provide case examples to support your arguments	BTL 5	Evaluate
4	Analyze the role of Knowledge Management in effective decision making.	BTL 4	Analyze
5	Illustrate how a Data Mart is used in a functional department. Compare it with a Data Warehouse.	BTL 3	Apply
6	Examine the relationship between DSS and Business Intelligence in managerial decision making.	BTL 6	Create
7	Describe the decision-making process and explain each step in detail.	BTL 4	Analyze
8	Propose an OLAP-based analytical solution and explain OLAP analytic functions such as roll-up, drill-down, slice, and dice.	BTL 6	Create
9	Evaluate the effectiveness of Decision Support Systems in supporting strategic, tactical, and operational decisions.	BTL 5	Evaluate
10	Design a Decision Support Systems framework for a retail organization and explain its components.	BTL 3	Apply
11	Discuss challenges in decision Support Systems.	BTL 5	Evaluate
12	Describe Knowledge Management and explain its objectives, processes, and importance in organizations.	BTL 4	Analyze
13	Demonstrate how Decision Support Systems (DSS) can be applied to solve semi-structured business problems.	BTL 5	Evaluate
14	Develop a Data Mart for a specific functional area and justify the design choices made.	BTL 5	Evaluate
15	Illustrate the effectiveness of dependent and independent Data Marts in business intelligence systems.	BTL 3	Apply
16	Describe the OLAP architecture and explain various OLAP analytic operations with suitable examples.	BTL 4	Analyze
17	Justify the importance of OLAP analytics over traditional reporting systems.	BTL 3	Apply

UNIT-III: BUSINESS FORECASTING

Introduction to Business Forecasting and Predictive analytics – Logic and Data Driven Models- Data Mining and Predictive Analysis Modelling – Machine Learning for Predictive analytics

PART – A

1	What is Business Forecasting?	BTL 1	Remember
2	Define Predictive Analytics.	BTL 1	Remember
3	What is the difference between forecasting and prediction?	BTL 2	Understand
4	What are logic-driven models?	BTL 1	Remember
5	What are data-driven models?	BTL 1	Remember
6	Define time series analysis.	BTL 1	Remember
7	What is regression analysis?	BTL 1	Remember
8	Define data mining.	BTL 1	Remember
9	What is predictive modelling?	BTL 1	Remember
10	What is classification in data mining?	BTL 1	Remember
11	What is clustering?	BTL 2	Understand
12	Define machine learning.	BTL 2	Understand

13	What is supervised learning?	BTL 1	Remember
14	What is unsupervised learning?	BTL 1	Remember
15	Mention any two applications of predictive analytics.	BTL 2	Understand
16	What is overfitting in predictive models?	BTL 2	Understand
17	Define training data and test data.	BTL 1	Remember
18	What is model accuracy?	BTL 1	Remember
19	What is feature selection?	BTL 2	Understand
20	What is forecasting horizon?	BTL 1	Remember
21	What is trend analysis?	BTL 1	Remember
22	What is seasonality in time series data?	BTL 2	Understand
23	Define predictive score.	BTL 1	Remember
24	What is model validation?	BTL 1	Remember
PART – B			
1	Discuss business forecasting and its importance in decision making.	BTL 4	Analyze
2	Explain predictive analytics and its role in business forecasting.	BTL 5	Evaluate
3	Compare logic-driven models and data-driven models with examples.	BTL 4	Analyze
4	Describe the data mining process used in predictive analytics.	BTL 3	Apply
5	Explain various predictive analysis modelling techniques.	BTL 4	Analyze
6	Discuss the role of machine learning in predictive analytics.	BTL 4	Analyze
7	Explain regression analysis used for business forecasting.	BTL 3	Apply
8	Describe classification and clustering techniques with examples.	BTL 4	Analyze
9	Explain time series analysis and its applications.	BTL 3	Apply
10	Discuss challenges in business forecasting.	BTL 4	Analyze
11	Explain how predictive analytics improves business planning.	BTL 4	Analyze
12	Describe the predictive analytics life cycle.	BTL 6	Create
13	Explain ethical issues in predictive analytics.	BTL 3	Apply
14	Discuss evaluation metrics used for predictive models.	BTL 4	Analyze
15	Explain the impact of poor data quality on forecasting accuracy.	BTL 5	Evaluate
16	Describe how organizations select appropriate forecasting models.	BTL 6	Create
17	Discuss future trends in business forecasting and analytics.	BTL 4	Analyze
UNIT – IV : HR & SUPPLY CHAIN ANALYTICS			
Human Resources – Planning and Recruitment – Training and Development – Supply Chain Network – Planning Demand, Inventory and Supply – Logistics – Analytics Applications in HR & Supply Chain – Applying HR Analytics to predict hourly employees for a year			
PART A			

1	Define HR Analytics.	BTL 1	Remember
2	What is workforce planning?	BTL 1	Remember
3	What is recruitment analytics?	BTL 2	Understand
4	Define training and development analytics.	BTL 1	Remember
5	What is supply chain analytics?	BTL 1	Remember
6	Define supply chain network.	BTL 1	Remember
7	What is demand planning?	BTL 1	Remember
8	Define inventory analytics.	BTL 1	Remember
9	What is logistics analytics?	BTL 2	Understand
10	What is supply planning?	BTL 1	Remember
11	What is HR attrition?	BTL 1	Remember
12	Define predictive HR analytics.	BTL 2	Understand
13	What is demand forecasting?	BTL 1	Remember
14	What is inventory optimization?	BTL 2	Understand
15	Mention any two applications of HR analytics.	BTL 2	Understand
16	Mention any two applications of supply chain analytics.	BTL 2	Understand
17	What is employee performance analytics?	BTL 1	Remember
18	What is talent analytics?	BTL 1	Remember
19	What is supplier analytics?	BTL 1	Remember
20	What is logistics performance measurement?	BTL 2	Understand
21	What is employee demand prediction?	BTL 1	Remember
22	Define workforce analytics dashboard.	BTL 2	Understand
23	What is supply chain visibility?	BTL 2	Understand
24	What is HR metrics?	BTL 1	Remember
PART B			
1	Explain HR analytics and its importance in organizations.	BTL 4	Analyze
2	Discuss workforce planning and recruitment analytics.	BTL 3	Apply
3	Explain training and development analytics with examples.	BTL 3	Apply
4	Describe the structure and components of a supply chain network.	BTL 3	Apply
5	Explain demand planning, inventory and supply analytics.	BTL 4	Analyze
6	Discuss logistics analytics and its role in supply chain efficiency.	BTL 4	Analyze
7	Explain analytics applications in HR and supply chain.	BTL 4	Analyze
8	Describe how HR analytics is used to predict employee demand.	BTL 3	Apply
9	Explain predictive HR analytics with suitable examples.	BTL 4	Analyze

10	Discuss the role of analytics in supply chain optimization.	BTL 5	Evaluate
11	Explain challenges in HR and supply chain analytics.	BTL 4	Analyze
12	Explain how analytics helps in predicting hourly employee demand for a year.	BTL 6	Create
13	Discuss ethical issues in HR analytics.	BTL 3	Apply
14	Explain the use of dashboards in HR decision making.	BTL 3	Apply
15	Discuss risk management using supply chain analytics.	BTL 5	Evaluate
16	Describe data sources used in HR and supply chain analytics.	BTL 4	Analyze
17	Discuss future trends in HR and supply chain analytics.	BTL 4	Analyze

UNIT V - MARKETING & SALES ANALYTICS

Marketing Strategy, Marketing Mix, Customer Behaviour – Selling Process – Sales Planning – Analytics applications in Marketing and Sales – Predictive analytics for Customer’s behaviour in marketing and sales.

PART A

1	Define marketing strategy.	BTL 1	Remember
2	What is marketing mix?	BTL 1	Remember
3	List the four P’s of marketing mix.	BTL 1	Remember
4	Define customer behaviour.	BTL 1	Remember
5	What is buying decision process?	BTL 1	Remember
6	What is market segmentation?	BTL 1	Remember
7	Define selling process.	BTL 1	Remember
8	List any two stages of selling process.	BTL 1	Remember
9	What is sales planning?	BTL 1	Remember
10	Define sales forecasting.	BTL 1	Remember
11	What is relationship marketing?	BTL 1	Remember
12	What is consumer perception?	BTL 2	Understand
13	Define analytics in marketing.	BTL 1	Remember
14	What is descriptive analytics?	BTL 1	Remember
15	What is predictive analytics?	BTL 1	Remember
16	State importance of customer data.	BTL 2	Understand
17	What is lead generation?	BTL 1	Remember
18	Define customer lifetime value (CLV).	BTL 1	Remember
19	What is CRM?	BTL 1	Remember
20	What is digital marketing analytics?	BTL 1	Remember
21	What is demand forecasting?	BTL 1	Remember
22	What is cross-selling?	BTL 1	Remember
23	What is up-selling?	BTL 1	Remember

24	What is data-driven decision making?	BTL 2	Understand
PART B			
1	Apply the concepts of marketing strategy to analyze the market entry of a new product.	BTL 3	Apply
2	Apply the marketing mix to design a marketing plan for a service organization.	BTL 3	Apply
3	Apply customer behaviour theories to explain purchasing decisions in online markets.	BTL 3	Apply
4	Apply the selling process stages to improve customer conversion rates.	BTL 3	Apply
5	Apply sales planning techniques to forecast sales for a new product.	BTL 3	Apply
6	Analyze the relationship between customer behaviour and marketing strategy using real-world examples.	BTL 4	Analyze
7	Analyze sales performance data to identify gaps in the selling process.	BTL 4	Analyze
8	Analyze the effectiveness of marketing mix elements in achieving sales objectives.	BTL 4	Analyze
9	Analyze the role of analytics applications in improving marketing decisions.	BTL 4	Analyze
10	Evaluate the effectiveness of a marketing strategy using marketing analytics.	BTL 5	Evaluate
11	Evaluate different sales planning and forecasting methods based on analytical outcomes.	BTL 5	Evaluate
12	Evaluate the impact of predictive analytics on customer acquisition and retention.	BTL 5	Evaluate
13	Design a marketing strategy integrating marketing mix and customer behaviour insights.	BTL 6	Create
14	Develop a sales plan supported by analytics and predictive techniques.	BTL 6	Create
15	Create a predictive analytics model to forecast customer buying behaviour.	BTL 6	Create
16	Formulate a data-driven marketing and sales strategy using analytics applications.	BTL 6	Create
17	Design an analytics-based marketing campaign to improve sales performance.	BTL 6	Create
