



## Model Question Paper

### Sixth Semester BE Degree Examination

### BUSINESS INTELLIGENCE

**Time: 3 Hours(180 Minutes)**

**Max. Marks: 100**

*Note: 1. Answer any FIVE full questions, choosing ONE full question from each module.*

*2. M: Marks, L: RBT (Revised Bloom's Taxonomy) level, C: Course outcomes.*

Module -1							M	L	C	
Q1	a.	Explain the components of <b>BI architecture</b> that transform raw data into insights for decision-making, with a neat diagram.					9	L2	CO1	
	b.	Discuss with a diagram the BI pyramid showing data transformed into intelligence to enhance marketing and customer acquisition for The Souled Store					6	L2	CO1	
	c.	Discuss the challenges in BI implementation.					5	L2	CO1	
<b>OR</b>										
Q2	a.	Explain the Conceptual Differences between Data, Information, and Knowledge					9	L2	CO1	
	b.	Examine the aspects of data timeliness and risks of stale data with an appropriate examples.					6	L2	CO1	
	c.	Discuss the value of converting information into knowledge and the factors in determining the ROI strategy with respect to the CRM Data Warehouse project					5	L2	CO1	
<b>Module- 2</b>										
Q3	a.	Consider the given dataset in Table1, apply the following OLAP operations: Slice, Dice, Rollup, Drill-down.					8	L3	CO3	
		<b>Patient_ID</b>	<b>Age</b>	<b>Gender</b>	<b>Blood_Pressure</b>	<b>Cholesterol</b>				<b>Heart_Disease</b>
		P001	45	Male	High	High				Yes
		P002	34	Female	Normal	Normal				No
		P003	50	Male	High	Normal				Yes
		P004	29	Female	Low	Normal				No
	P005	60	Male	High	High	Yes				
b.	Distinguish between various types of OLAP model.					7	L2	CO2		
c.	Illustrate the business reporting cycle by applying it to a real-world business scenario. Support your answer with a neat diagram and explain how each stage contributes to effective decision-making.					5	L3	CO3		
<b>OR</b>										
Q4	a.	Illustrate the procedure of designing Star Schema and Snowflake Schema for a banking system with a suitable diagram.					8	L3	CO3	
	b.	Explain the stages of the ETL process in data warehousing.					7	L2	CO2	
	c.	Apply Balanced Scorecard (BSC) and Six Sigma by using both approaches in a business scenario. Evaluate their effectiveness in monitoring and improving organizational performance.					5	L3	CO3	
<b>Module - 3</b>										
Q5	a.	Examine the CRISP-DM process and discuss the importance of early-stage activities in determining the overall outcome of a data mining project.					8	L3	CO3	
	b.	Compare the key features of SOM and Hopfield network architectures.					5	L2	CO2	

	c.	Describe the six proficiency levels of a web analytics maturity model	7	L2	CO2
<b>OR</b>					
Q6	a.	Illustrate how input signals are processed through different layers in an ANN to generate output.	8	L3	CO3
	b.	Explain how data transformation and model assessment are performed in the SEMMA framework.	5	L2	CO2
	c.	Describe the three stages involved in text mining: corpus creation, term-document matrix, and knowledge extraction.	7	L2	CO2
<b>Module - 4</b>					
Q7	a.	Apply the concept of decision and uncontrollable variables to explain how outcomes are generated in a decision support model.	7	L3	CO4
	b.	Illustrate the differences between sensitivity analysis and What-If analysis with suitable examples.	8	L3	CO4
	c.	Describe the role of decision tables and decision trees in representing single-goal decision scenarios	5	L2	CO2
<b>OR</b>					
Q8	a.	Show how the choice of search method (blind vs heuristic) affects computational performance in large-scale problems.	7	L3	CO4
	b.	Illustrate how genetic algorithms are applied to solve the Vector game problem step by step.	8	L3	CO4
	c.	Explain the characteristics, input factors, and benefits of agent-based simulation models in supply chain management	5	L2	CO2
<b>Module - 5</b>					
Q9	a.	Explain the concept of Expert Systems and describe their structure with suitable components.	8	L2	CO2
	b.	Apply the concept of a Recommendation Engine to an e-commerce application and explain how it improves business decision-making.	8	L3	CO4
	c.	Explain the concept of Knowledge Management and its importance in organizations.	4	L2	CO2
<b>OR</b>					
Q10	a.	Explain the concept of Stream Analytics and its role in modern Business Intelligence applications.	8	L2	CO2
	b.	Apply Predictive or Prescriptive Analytics techniques to a business scenario (e.g., sales forecasting or customer churn prediction).	8	L3	CO4
	c.	Explain the importance of ethics, privacy, and legality issues in Business Intelligence.	4	L2	CO2

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