Gandhi Institute of Engineering and Technology University, Odisha, Gunupur
(GIET University)

B. Tech (Fifth Semester - Regular) Examinations, November 2025

23BCDPC35002– Business Intelligence and Data Analytics

(CSE-DS)

Time: 3 hrs Maximum: 60 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

	Q.1. Answer ***ALL*** questions	CO #	Blooms Level
a.	Define Business Intelligence and explain its key components.	CO1	K1
b.	Differentiate between descriptive, predictive, and prescriptive analytics with examples.	CO2	K2
c.	List and briefly describe the major steps involved in the data mining process.	CO3	K2
d.	Explain the role of clustering in Business Intelligence.	CO4	K2
e.	What are dashboards in Power BI? Mention their business significance.	CO6	K2

PART – B **(10 x 5 = 50 Marks)**

	Answer ***ALL*** the questions	Marks	CO #	Blooms Level
2. a.	Explain the architecture of a Business Intelligence system. Discuss its major layers with suitable examples.	5	CO1	K2
b.	Discuss the ethical aspects and challenges in Business Intelligence implementation.	5	CO1	K3
	(OR)			
c.	Define Decision Support System (DSS). Explain the evolution of DSS and its role in modern decision making.	5	CO2	K2
d.	Explain the decision-making process model with a neat diagram.	5	CO2	K2
3.a.	Explain various types of mathematical models used in Business Analytics with examples.	5	CO2	K2
b.	Describe the phases involved in the data mining process and their importance.	5	CO3	K2
	(OR)			
c.	Apply data mining to identify customer churn in a telecom dataset. Explain the steps and expected outcome.	5	CO3	K3
d.	Distinguish between descriptive and predictive analytics using a business case example.	5	CO2	K3
4.a.	Explain data validation, transformation, and reduction techniques in data preparation.	5	CO3	K3
b.	Describe the working principle of Naïve Bayes and Logistic Regression algorithms.	5	CO4	K3
	(OR)			
c.	Discuss the role of Neural Networks and Support Vector Machines in classification.	5	CO4	K3
d.	Compare different classification algorithms based on accuracy and interpretability.	5	CO4	K3

5.a.	What are clustering techniques? Explain K-Means and Hierarchical clustering with an example.	5	CO4	K3
b.	Discuss the applications of BI in logistics and supply chain management.	5	CO5	K4
	(OR)			
c.	Analyze how clustering can improve marketing strategy using customer segmentation data.	5	CO5	K4
d.	Write a short note on optimization models used in production and logistics planning.	5	CO5	K3
6.a.	Explain the concept of Revenue Management Systems (RMS) and its relevance in BI.	5	CO5	K4
b.	What is Data Envelopment Analysis (DEA)? Explain its role in evaluating business efficiency.	5	CO5	K3
	(OR)			
c.	Develop a simple case study demonstrating data visualization using Power BI for sales analysis.	5	CO6	K3
d.	Discuss how dashboards and KPIs are designed in BI tools to support decision-making.	5	CO6	K3

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