

Answer any Five questions
All questions carry EQUAL marks
Question No. 8 is Compulsory

1. a) Explore the definition of data science and its applications. **6M**
b) Differentiate in brief on data scientist, data engineer and data analyst. **6M**
2. a) Elaborate primary and secondary data collection methods **6M**
b) List the data visualization techniques in business analytics. **6M**
3. a) Elaborate business requirements / problems and its relevance in data analysis. **6M**
b) Examine the model optimisation in project life cycle. **6M**
4. a) Analyse the concepts of association analysis in data mining. **6M**
b) Discuss the benefits of data mining in business analytics. **6M**
5. a) Explain in detail about supervised, Unsupervised and reinforcement learning. **6M**
b) Identify and explain in brief the data mining tasks in data analytics. **6M**
6. a) Describe the role of machine language in supply chain management **6M**
b) Discuss on the ethics to be followed in business data mining. **6M**
7. a) Discuss the importance of balanced score card in analytics. **6M**
b) Explain Retail Analytics and its importance in perusing business goals. **6M**
8. **CASE STUDY:** **12M**
Note: Create your own data (if required)
Omega & Co. is a retail company wants to analyze its sales performance across different regions and product categories. They have a large volume of sales data collected over several years, including information on sales revenue, units sold, and customer demographics. The company aims to gain actionable insights from the data to identify trends, patterns, and areas for improvement.
 1. Visualize sales performance by region and product category to identify top-performing and underperforming areas. **(4M)**
 2. Analyze sales trends over time to understand seasonal patterns and identify growth opportunities. **(4M)**
 3. Identify customer demographics and purchasing behavior to target marketing campaigns effectively. **(4M)**