|  |  |
| --- | --- |
| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**Post Graduate Diploma in Management |
| **Course Title: Essentials of Business Analytics, (Course Code: 40801)****End-Term Examination, Term - II (January, 2025)**  |
|  **Time Duration: 2 Hours Total Marks: 40** |

***General Instructions*:**

1. *Marks against each question are indicated to its right.*
2. *For question 1, MS Excel sheet is to be submitted containing questions, possible solution and business inferences.*
3. *For question 3, save the PowerBI Dashboard with your Full Enrollment NO.*
4. *Q2 and the analysis of each part of Q3have to be written in the answer sheet.*
5. *Do not write on the question paper except your roll number.*

**Q.1 Problem Statement (20 Marks)**



**Vikram**, the forward-thinking CEO of a tech company, seeks to leverage data analytics to gain a competitive advantage. He enlists **Betaal**, an analytics guru, to guide him through this transformation. Betaal is World’s number one Analytical Guru but before he was hired, he put one condition that on daily basis he needs TWENTY business questions by Vikram that should be useful for business decision making. In case TWENTY different valid Questions to be solved by different method are not provided by Vikram than Betaal will destroy complete dataset and datacenter.

Betaal always emphasizes the importance of collecting high-quality data and setting up robust data management systems to ensure accuracy and accessibility.

They use descriptive analytics to understand past performance, identifying trends and patterns that have impacted the business.

Through diagnostic analytics, they delve into the reasons behind declining sales, uncovering hidden issues in the supply chain.



Using predictive analytics, they forecast future market demands, enabling Vikram to make informed strategic decisions. With prescriptive analytics, they devise actionable strategies, optimizing pricing and marketing efforts to maximize profits.

By integrating analytics across all business functions, Vikram, guided by Betaal, successfully transforms the company into a data-driven leader in the industry.

You are very close to Vikam and Vikram always take suggestions from you regarding growth of the business.

On the last working day of the contract with Betaal, Vikram is out of questions. During last 364 days Betaal was very useful resource for Vikarm’s organization, and they achieved high. Now He requested you to provide TWENTY unique questions with solutions.

Your job is to provide TWENTY unique questions with solutions. Solution to each question should be performed by different/unique MS- Excel Functions /Tools/ Formulas. These solutions should be used for actionable business decision making for future. Hence, you are also required to tell how these questions and their solutions are useful for future decision making

Vikram provides you with a data set of Boston Housing, currently Vikram and his team is working on this data set for deriving some business insights for their clients. This data set contains information collected by the US Census Service concerning housing in the area of Boston Massachusetts.



**Your evaluation will be based on the quality of questions asked, solutions provided by applying suitable MS- Excel function/s and how these questions and solutions will be useful for future business decision making.**

**Q.2** Explain the principle of Gestalt applicable to each of the figures and explain its practical utility by sharing an example. **(5 Marks)**

|  |  |
| --- | --- |
| Gestalt principle figure-ground example |  |
| a) | **b)** |

**Q.3** A retail chain operates in multiple shopping malls across the city and wants to understand customer behaviour and sales trends to enhance performance. The management has access to sales data, including details about invoices, customers, product categories, payment methods, and shopping mall locations. The retail chain seeks to improve revenue, enhance customer satisfaction, and optimize inventory and marketing strategies based on insights derived from the data. **(15 Marks)**

1. Analyse the sales trend by shopping mall over time, and decide which malls might require targeted promotions or investment in customer retention strategies.
2. Compare the purchasing behaviour of different ages of customers for specific product categories, and decide how to design marketing campaigns tailored to the preferences of different age groups.
3. Identify which payment method is most frequently used across shopping malls, and enhance customer convenience by prioritizing popular payment options or offering incentives for less-used methods.
4. Evaluate the gender-wise spending patterns in various product categories, adjust stock levels, or introduce gender-specific campaigns to maximize sales.
5. Examine which shopping mall generates the highest revenue, investigate what makes these malls successful, and replicate those tactics in lower-revenue locations.