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| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**  Post Graduate Diploma in Management (Batch 2022-24) |
| **Course Title: Analytical Techniques for Business, (Course Code: 40821)**  **End Term Examination, Term - III (May 2023)** | |
| **Time Duration: 2 Hours Total Marks: 40** | |

***General Instructions*:**

1. *All questions are to be attempted.*
2. *In each worksheet, the question number and answer number are separately specified.*
3. *Answers/ inferences are to be written in the provided* ***End Term Examination Physical Answer Sheet******ONLY*** *and* ***screenshots with details are to be pasted in the specified worksheet****.*
4. *All questions are to be answered with justification. (Business Inferences and Decision Making should be explained)*
5. *After performing desired operations on the dataset provided required screenshots from RapidMiner ® Studio / MS- Excel are to be pasted at the* ***appropriate worksheet/ location****.*
6. *The question dataset is in the question worksheet, and the answer worksheet also contains the question.*
7. *MS- Excel and/or RapidMiner ® Studio are to be used as Software Tools.*
8. *The Question Paper consists of* ***FOUR*** *questions.*
9. *Submit your Answer MS-Excel Sheet with file name in the format -* ***YOURROLLNUMBER\_ATB\_2022224\_III\_May2023 along with End Term Answer Sheet.***
10. ***Question paper is of 40 Marks.***

**Question 1 (10 Marks)**

Discuss and implement the process of cleaning the dataset by handling missing values, outliers, and non-numeric values. Calculate and discuss Descriptive Statistics on uncleaned and cleaned data sets, and also provide business/ general inferences after cleaning the dataset. Discuss the importance of the data-cleaning process in business analytics.

**Question 2 (10 Marks)**

Apply suitable Predictive Analytics Technique/s to the data set and generate business insights for decision-making. Check model robustness also.

**Question 3 (10 Marks)**

Generate five questions from the dataset and apply suitable Visualization tools (Charts/ Graphs) to answer questions, also provide business/ general inferences based on visualization.

**Question 4 (10 Marks)**

A grocery store chain wants to learn more about purchasing patterns of grocery buyers. Specifically, they want to know what items are purchased in conjunction with each other, for purposes of display, point of sale special offers, and to eventually implement a real-time recommender system to cross-sell items at the time of purchase. The data is in the form of customer transactions. Analyze and comment on the type of learning model/ method (Supervised or Unsupervised) suitable for analyzing this dataset. Based on data analysis using suitable analytical techniques, what actionable business inferences do you generate for the organization/ store?

------------------------------------------------end of question paper……………………………………………………………………

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