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| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**Post Graduate Diploma in Management (Batch 2021-23) |
| **Course Title: Analytical Techniques for Business, (Course Code: 40821)****End-Term Examination, Term - VI (April 2023)**  |
|  **Time Duration : 2 Hours Total Marks: 40** |

**INSTRUCTIONS:**

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

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

**Question 2 (10 Marks)**

Apply suitable Predictive Analytics Technique/s on 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 grocery buyers purchase patterns. 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 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 technique, what actionable business inferences you generate for the organization/ store.