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| **C:\Users\ADMIN\Desktop\j.png** | **JAIPURIA INSTITUE OF MANAGEMENT, INDORE**  Post Graduate Diploma in Management |
| **Course Title: Marketing Analytics, (Course Code: MKT 50125)**  **End-Term Examination, Term – V (Batch 2021-23) (February, 2023)** | |
| **Time Duration : 2 Hours Total Marks: 40** | |

***General Instructions*:**

1. *You are required to use MS-Excel and/or SPSS and/or Rapid Miner to solve the questions.*
2. *Answer to all the questions on the answer sheet provided to you.*
3. *You are also required to save and submit the supporting output file from MS-Excel and/or SPSS and/or Rapid Miner as one zip file.*
4. *Answers should be brief and to the point.*
5. *Do not write on the question paper except your roll number.*

**Q.1**. The ***Station.xlsx*** file contains data for each family including the family size (large or small), income (high or low), and whether the family bought a station wagon. Use this file to solve the following questions:

a. Does it appear that family size or income is a more important determinant of station wagon purchases? (**5 Marks)**

b. Compute the fraction of station wagon purchasers that come from each of the following four categories: High Income Large Family, High Income Small Family, Low Income Large Family, and Low Income Small Family. (**5 marks)**

**Q.2.** A decorating store specializing in do-it-your-self home decorators must decide how many information packets to prepare for the summer decorating season. The store managers know they will require at least 400 copies of their popular painting packet. They believe their new information packet on specialty glazing techniques could be a big seller, so they want to prepare at least 300 copies. Their printer has given the following information: The painting packet will require 2.5 minutes of printing time and 1.8 minutes of collating time. The glazing packet will require 2 minutes for each operation. The store has decided to sell the painting packet for $5.50 a copy and to price the glazing packet at $4.50. At this time, the printer can devote 36 hours to printing and 30 hours to collation. He will charge the store $1 for each packet prepared. How many of each packet should the store order to maximize the revenue associated with information packets, and what is the store’s expected revenue? (**10 Marks)**

**Q.3**. The file ***Q3.xlsx*** contains the details of transactions for customers of a Quick-commerce company.

* + - * 1. Applying the RFM technique calculate the average revenue generated from top 20 percent of the customers. (**5 marks)**
        2. Assuming the retention rate to be 0.75 and discounting rate to be 0.08, calculate the LTV to be generated from the top 20 percent of the customers in 3 years. (**5 marks)**

**Q.4.** Use the data provided in ***Q3.xlsx*** and answer the following using appropriate algorithm for the following:

1. Recommend two products a consumer will buy if he/she has added Urad Dal to his shopping cart and justify your answer.
2. Recommend a product a consumer will buy if he/she has added Root vegetable and Namkeen to his shopping cart and justify your answer.
3. Recommend a product a consumer will buy if he/she has added Beans and Brinjals to his shopping cart and justify your answer.
4. Identify 5 products, whose purchase leads to the purchase of organic F&V.

(**2.5\*4=10 Marks)**