Set-A

PGDM 2022-24

Foundation of Marketing Analytics

DM -433

Trimester – IV, End-Term Examination: September 2022

Roll No: ____________

Time allowed: 2 Hrs
Max Marks: 40

Instruction: Students are required to write Roll No on the cover page of the Answer Sheet. All other instructions on the question paper / Admit card should be followed meticulously.

Sections	No. of Questions to attempt	Marks	Total Marks
A	4 Questions	4* 5	20
B	Compulsory with 2 questions	2*10	20
			40

SECTION A – (5 marks * 4 questions) = 20 Marks

Q1. What is a pair-wise comparison matrix? Discuss its various properties

OR (CO1)

Test the consistency of the following pair-wise comparison matrix.

$$\begin{pmatrix} 1 & 4 & 6 \\ 1/4 & 1 & 7 \\ 1/6 & 1/7 & 1 \end{pmatrix}$$

Q2. In a transactional database, Apple has been transacted 340 times, Avocado has been transacted 210 times and both have been transacted 71 times. Find the followings

a. Support(Avacado)
b. Conf(Apple-> Avacado)
c. Conf((Avacado->Apple)

OR (CO2)

Define support, confidence and lift of two products A and B from a transactional database.

Q3. How maximum likelihood is estimated in logistic regression?

OR (CO3)

How a logistic regression is different from simple regression?

Q4. How can you eliminate outliers by z-transformation? Explain with example.

OR (CO3)

How can you eliminate outliers by Inter Quartile Range? Explain with example.

Section B (CO4)

Q5. Forecast the weekly sales of snickers bar from the data set snickers.xls based on SCAN*PRO model.

Q6. A new author sets three criteria for selecting a publisher for Marketing Analytics book:

Royalty percentage (R), Marketing (M) and Advance payment (A), two publishers H and P, have expressed interest in the book. Using the following comparison matrices, rank the two publishers using Eigen vector method. Assess the consistency of the matrices, if required.

$$A = \begin{bmatrix} & (R) & (M) & (A) \\ (R) & 1 & 1 & 1/4 \\ (M) & 1 & 1 & 1/5 \\ (A) & 4 & 5 & 1 \end{bmatrix}$$

$$A_R = \begin{bmatrix} & (H) & (P) \\ (H) & 1 & 2 \\ (P) & 1/2 & 1 \end{bmatrix}, \quad A_M = \begin{bmatrix} & (H) & (P) \\ (H) & 1 & 1/2 \\ (P) & 2 & 1 \end{bmatrix}, \quad A_A = \begin{bmatrix} & (H) & (P) \\ (H) & 1 & 1 \\ (P) & 1 & 1 \end{bmatrix}$$