Time allowed: 2 Hours
Max Marks: 50

Roll No: _____

Instruction: Students are required to write models, process, results and interpretations in answer booklet. They are also advised to submit soft copy to the invigilators. Answer one question from Q1 and Q2. Q3 is compulsory

Q1. 30 marks

a) Derive the weights of the following pairwise comparison matrix of attributes by Eigen vector method. You are to write in detail the process. CILO-1

	Attribute 1	Attribute 1	Attribute 1
Attribute 1	1	0.25	0.75
Attribute 1		1	3.5
Attribute 1			1

b) Find the error in entries of the above pair wise comparison matrix. Explain the process in brief. CILO-2

OR

Q2. Give the detail procedure of solving a logistic regression. How will you incorporate non-linearity's and /or interactions in a logistic regression model?

The file "LR_5.xls" contains the following data for several launches of the space shuttle:
   o Temperature (degrees Fahrenheit)
   o Number of O-rings on the shuttle and the number of O-rings that failed during the mission

Use logistic regression to determine how temperature affects the chance of an O-ring failure. The *Challenger* disaster was attributed to O-ring failure. The temperature at launch was 36 degrees. Does your analysis partially explain the *Challenger* disaster?

Q3 . A hotel chain wants to analyse its customer base with RFM. Describe the possible data (variables) in the database necessary to do this exercise.

The file "RFM_1.xlsx" contains the date and size of transactions for 5000 customers of a mail order catalog company. RFM (recency, frequency, and monetary value) attempts to predict how a customer will perform in the future based on ranking for recency, frequency, and monetary value. Rate each customer on a 1–5 scale on recency, 1-4 in frequency and 1-3 on monetary, with a rating of 5, 4 or 3 being the best and 1 the worst.

CILO 3   20 marks