

Set A

PGDM
Marketing Analytics
DM-432/IB-415

Trimester –IV, End-Term Examination: September 2018

Time allowed: 2 Hours and 30 minutes
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.

Section A (Compulsory)

A1.

20 marks

- a. Develop a mathematical model in LP for the following pairwise comparison matrix of attributes and find the weightages of attributes applying LPAHP approach.

	Attribute 1	Attribute 1	Attribute 1
Attribute 1	1	0.5	0.75
Attribute 1		1	2.5
Attribute 1			1

Section B

(Attempt any three, Marks: 3*10=30)

B1. Find the cell which has maximum error in above comparison matrix.

B2. 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?

B3. The file "Clustering_1.xls" contains calories, protein, fat, sugar, sodium, fiber, carbs, and potassium content per ounce for 43 breakfast cereals. Use this data to perform a cluster analysis with five nucleuses. Mention in which nucleuses has how many breakfast cereals.

B4. P&G wants to determine if it should introduce a new, cheaper version of Head and Shoulders shampoo. It asked a focus group which of the products attributes it would prefer for the product- large packet size (L) or small packet size (S); oil free (F) or with oil (O); herbal (H) or chemically-treated (C). Use this data to calibrate a discrete choice model. The numbers of choices by respondents are as given below:

Combinations	LFH	LFC	LOH	LOC	SFH	SFC	SOH	SOC
Number	4	2	3	0	3	4	0	2