CLASS: MBA   SEMESTER : III
BRANCH: MBA   SESSION : MO/2024

SUBJECT: MT552 MARKETING ANALYTICS

TIME: 3 Hours   FULL MARKS: 50
INSTRUCTIONS:
1. The question paper contains 5 questions each of 10 marks and total 50 marks.
2. Attempt all questions.
3. The missing data, if any, may be assumed suitably.
4. Before attempting the question paper, be sure that you have got the correct question paper.
5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.

		CO	BL

Q.1   An analyst collected data of the demand quantity for various price points and then using   [10]   2   5
a suitable technique estimated the demand curve which given as,
$D = -38P + 10$.
The Unit cost of the product is in turn dependent on the sales quantity and estimated by
the following expression,
$UC = -0.07D + 1.1$
Find out the Price for Optimum Profit.
D: Demand, P: Price, UC: Unit Cost

Q.2   Define and Briefly describe, Support, Confidence and Lift in the context of Market Basket   [10]   1   4
Analysis.
Consider a dataset with the following transactions:

Transaction ID	Items Purchased
1	{Bread, Milk}
2	{Bread, Diaper, Beer, Egg}
3	{Milk, Diaper, Beer, Coke}
4	{Bread, Milk, Diaper, Beer}
5	{Bread, Milk, Coke}

Using this dataset, calculate the **Support**, **Confidence**, and **Lift** for the following
association rule:
Rule: Diaper→Beer

Q.3   Explain the Steps of performing Conjoint Analysis for New Product Introduction. What is   [10]   4   4
Brand Premium and how it can be estimated by Conjoint Analysis?

An analyst wants to perform conjoint analysis of three smart phone brands (**Brand A**,
Brand B, and **Brand C**). The study includes three attributes: **Brand**, **Battery Life**, and
Screen Size. Each attribute has the following levels:

Levels	1	2	3
Brands	A	B	C
Battery Life	6 hrs.	10 hrs.	14 hrs.
Screen Size	4 in	6 in	8 in

The company collected the customer ratings for the product profiles and the dummy
variable regression output is given below:

Variables	Levels	Beta Coefficients
Brand	A	0.000
	B	-2.660
	C	-4.330
Battery Life	6 hrs.	0.000
	10 hrs.	-2.400
	14 hrs.	-4.600
Screen Size	4 in	0.000
	6 in	2.600
	8 in	3.400

(i)Estimate the weighted importance of the three attributes.
(ii)Estimate the Brand premium of A over C?

Q.4 Briefly Explain Covariance, Correlation and Partial Correlation in the context of [10] 3 3
Marketing analytics.

The following data shows the Milk intake, Body weight and Age of consumers. Find out
the correlation between Milk intake and Body weight, while controlling the Age.

Milk Intake (liters)	Weight (Kg)	Age (Years)
10	29	17
13	33	23
19	41	21
16	47	29
13	51	37
21	43	41
23	31	39
29	49	47
27	71	43

Q.5 What is customer churning? How Pivot analysis can help identify potential churn [10] 5 2
customers? Explain with the help of examples.

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