

**BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)**

**CLASS: MBA  
BRANCH: MBA**

**SEMESTER : III  
SESSION : MO/2023**

**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(a) Write down the steps and explain the steps of summarizing data for the purpose of marketing analytics.  | [5] 1 | 3  |
| Q.1(b) There is a linear Demand curve. It has two disjoint segments AB and CD. The price/unit in these four points of the demand curve are 0.80, 0.70, 0.30 and 0.20 respectively. The Demand/day in these four points are 40000, 60000, 140000, and 160000 respectively. Estimate the price elasticity for demand in these two segments and write down your inferences. | [5] 3 | 4  |
| Q.2(a) What is Least square method. Derive the expression for the intercept (a) and slope (b) for the regression model $y = a + bx$ .  | [5] 4 | 5  |
| Q.2(b) Explain the 3 limitations of the Customer Lifetime Value (CLV) model.   | [5] 1 | 3  |
| Q.3(a) Explain your understanding about (i) consumer surplus and (ii) price bundling. Provide suitable examples.   | [5] 2 | 3  |
| Q.3(b) Explain the importance of smoothing in time series forecasting. Apply Exponential smoothing to forecast the value of the next time period in the given data.  | [5] 3 | 4  |

T1	T2	T3	T4	T5	T6	T7
27	33	25	29	26	31	?

- |   |       |   |
|---|-------|---|
| Q.4(a) Explain differences between user-based and item-based collaborative filtering.   | [5] 4 | 3 |
| Q.4(b) Explain your understanding about (i) correlation and (ii) covariance   | [5] 4 | 3 |
| Q.5(a) In an RFM analysis for a departmental store, a particular customer Jonathan is classified as a Potential Loyalist. Discuss and explain potential action plans for the store management w.r.t Jonathan. | [5] 4 | 3 |
| Q.5(b) Explain the three types of search engine optimization? Briefly describe them.  | [5] 5 | 3 |

:::24/11/2023 M:::