END SEMESTER EXAMINATION (JAN-JUNE, 2022)

NAME OF THE SUBJECT: **MULTIVARIATE DATA ANALYSIS**

SUBJECT CODE: **MT-550** DATE AND TIME: 7TH MAY, SATURDAY 2022(2-4 PM)

FULL MARKS: 50   ANSWER ALL THE QUESTIONS: (5x10)

MODE OF INSTRUCTION: AS PER INSTITUTE NORMS

Notations, if any, are of the usual meaning

1. Distinguish between 'Multivariate' and 'Multivariate Analysis'. Explain the ***Objectives o***f Scientific Investigations to which Multivariate Methods are most sought. Highlight one area of application where multivariate techniques are suitable to apply.   (2+4+4=10)

2. Define One Way **ANOVA** (Analysis of Variance) *OR* **MANOVA** (Multivariate Analysis of Variance). Highlight any area and discuss how ANOVA *OR* MANOVA (any One) is suitable to apply.   (2+8=10)

3. Define Multidimensional Scaling. Construct / Frame a Questionnaire using scaling concepts taking any real-life problem of your choice, preferably in the area of Service Operations.   (2+8=10)

4. Explain any real problem to show how Confirmatory Factor Analysis (CFA) *OR* Exploratory Factor Analysis (EFA) (any One) has been applied.   (10)

5. Discuss the followings with management outlook /significance (any *Two)*   (5+5=10)
    - Multiple Regression Model
    - Structural Equation Modeling (SEM)
    - Discriminant Analysis
    - Functional Principal Component Analysis (Functional PCA)
……………………………………**07.5.2022(E)**…………………………………………..