

**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

[AHS 0321]

**MARCH 2021**

**Sub. Code: 2866**

**(OCTOBER 2020 EXAM SESSION)**

**M.Sc. BIOSTATISTICS**

**SECOND YEAR (From 2011-2012 onwards)**

**PAPER II – APPLIED MULTIVARIATE ANALYSIS AND TIME SERIES ANALYSIS**

*Q.P. Code : 282866*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborateon:**

**(2 x 20 =40)**

1. Explain the concept of principle component analysis and how does this procedure is used in Epidemiological study?
2. Explain the concept of discriminant analyses and explain how the discriminant analysis is used as a classification method?

**II. Writenoteson:**

**(10 x 6 =60)**

1. Auto regressive processes
2. Explain quadratic classification rule.
3. Deterministic and stochastic models
4. Describe the application of time series analysis through an epidemic example.
5. Difference between hierarchical and non-hierarchical analysis.
6. Distinguish between collinearity and multicollinearity.
7. Distinguish between ARMA and ARIMA.
8. Describe the features of any two forecasting models.
9. Explain how moving average process can be used in epidemiology.
10. Write a critical note on Path analysis.

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