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

[AHS 1022]   OCTOBER 2022   Sub. Code: 2866

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 time series analysis with a suitable epidemiological example. Explain in detail about ARMA and ARIMA and Distinguish between ARMA and ARIMA.

II. Write notes on: **(10 x 6 =60)**

1. Auto regressive processes.
2. Explain quadratic classification rule.
3. Deterministic and stochastic models.
4. Describe logistic regression and explain the application of logistic regression with suitable example.
5. Difference between hierarchical and non-hierarchical analysis.
6. Distinguish between collinearity and multicollinearity.
7. Canonical correlation.
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.

****