20STP20

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2022
(Fourth Semester)

Branch – **STATISTICS**

ECONOMETRICS AND PLANNING MODELS

Time: Three Hours Maximum: 75 Marks

SECTION-A (10 Marks)

Answer **ALL** questions
ALL questions carry **EQUAL** marks (10 x 1 = 10)

1. Econometrics may be defined as the social science which uses the tools of ------------ are applied to the analysis of economic phenomena.
   (i) economic theory (ii) mathematics
   (iii) statistical inference (iv) All the above

2. Keynes postulated the marginal propensity to consume is
   (i) greater than zero but less than 1. (ii) greater than one
   (iii) Less than zero (iv) equal to zero

3. The population regression merely states that the expected value of the distribution of Y given X_i is functionally related to
   (i) X_i (ii) Y_i (iii) Y/X_i (iv) X/Y_i

4. The regression model is
   (i) linear in the parameters (ii) non-linear in parameters
   (iii) Stochastic in parameters (iv) non-random in parameters

5. Variance Inflation Factor is used for.........
   (i) Detecting Hetroscedasticity (ii) Solving Hetroscedasticity
   (iii) Detecting Multi-collinearity (iv) Solving Multi-collinearity

6. If the value of Durbin-Watson's d stastic = 0, there is.............
   (i) No Auto-correlation (ii) Positive Auto-correlation
   (iii) Negative Auto-correlation (iv) None of these

7. In the context of simultaneous equations modelling, which of the following statements is true concerning an endogenous variable?
   (i) The values of endogenous variables are determined outside the system
   (ii) There can be fewer equations in the system than there are endogenous variables
   (iii) Reduced form equations will not contain any endogenous variables on the RHS
   (iv) Reduced form equations will contain only endogenous variables on the RHS.

8. The order condition is
   (i) A necessary and sufficient condition for identification
   (ii) A necessary but not sufficient condition for identification
   (iii) A sufficient but not necessary condition for identification
   (iv) A condition that is neither necessary nor sufficient for identification

9. The Harrod Domar growth model suggests that growth is ?
   (i) directly related to savings and inversely related to the capital/output ratio
   (ii) directly related to the capital/output ratio and inversely related to savings
   (iii) indirectly related to savings and the capital/output ratio
   (iv) directly related to savings and the capital/output ratio

Cont...

10. The Planning Commission was established in the year

(i) 1947 (ii) 1948 (iii) 1950 (iv) 1965

SECTION - B (35 Marks)

Answer **ALL** Questions
ALL Questions Carry **EQUAL** Marks (5 x 7 = 35)

11. (a) Describe in detail the goals of Econometrics.
(OR)
(b) Elucidate formulation and specification of Econometric model.

12. (a) Explain the concept of population regression function and sample regression function.
(OR)
(b) Explain in detail the significance of stochastic disturbance term.

13. (a) Describe the consequences of Autocorrelation.
(OR)
(b) Describe the consequences of Multicollinearity.

14. (a) Explain the nature of Simultaneous Equation Model.
(OR)
(b) Give the structure of Identification Problem.

15. (a) Define the planning strategies in India.
(OR)
(b) Describe the similarities between Mahalanobis and Harrod-Domar Models.

SECTION - C (30 Marks)

Answer any **THREE** Questions
ALL Questions Carry **EQUAL** Marks (3 x 10 = 30)

16. Explain in detail the methodology adopted in Econometrics.
17. Describe in detail the Ordinary Least Square of estimating the parameters.
18. Briefly outline the procedure for testing autocorrelation.
19. Explain in detail the LIML and 2SLS methods of estimation.
20. Elucidate the Mahalanobis method of one sector, two sector and four sector models.

Z-Z-Z END