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22STP419N

PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2025
(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 × 1 = 10)

Module No.	Question No.	Question	K Level	CO
1	1	Which of the following is not an error that occurs during the model specification? a) Omission of some variables b) Omission of some equations c) A wrong mathematical function d) Omission of some values of a variable	K1	CO1
	2	Observations from same subjects at multiple times generates--------data. a) Cross Sectional b) Panel c) Time Series d) Spatial	K1	
2	3	_____ not an explanatory variable. a) Effect variable b) Causal variable c) Predictor d) Regressor	K1	CO2
	4	Identify which is not a dependent variable. a) Control variable b) Predictand c) Regressand d) Target variable	K1	
3	5	Recall the test to test the null hypothesis of autocorrelation. a) Box-Ljung test b) t-test c) Chi Square test d) ANOVA	K1	CO3
	6	Mention the properties of OLS estimators in the presence of multi collinearity. a) Consistent, biased and efficient b) Consistent, unbiased and efficient c) Consistent unbiased and inefficient d) Inconsistent, biased and efficient	K2	
4	7	If dependent variable in one equation is an explanatory variable in other equation, which of the following is used? a) Simple Linear Regression b) Multiple Regression c) Any Single equation model d) Multi equation model	K2	CO4
	8	State method of estimating the structural parameters of an over-identified system. a) OLS b) ILS c) 2SLS d) LIML	K2	
5	9	Identify a Five Year Plan based on Mahalonobis model. a) First b) Fourth c) Fifth d) Second	K2	CO4
	10	In which of the following models Marginal saving rate is treated as a parameter? a) Harrod-Domar Model b) Mahalonobis Model c) Chakrobarty model d) Keynesian Model	K2	

Cont...

SECTION - B (35 Marks)

Answer **ALL** questions

ALL questions carry **EQUAL** Marks (5 × 7 = 35)

Module No.	Question No.	Question	K Level	CO
1	11.a.	Elaborate main goals of Econometrics. Illustrate.	K3	CO1
		(OR)		
	11.b.	Explain the process of specifying a model in econometrics.		
2	12.a.	Prove that the least square estimator of β_0 is a linear function of Y_i.	K4	CO2
		(OR)		
	12.b.	Derive the least square estimate of the intercept in a simple Linear Regression model.		
3	13.a.	Describe Durbin Watson test.	K4	CO3
		(OR)		
	13.b.	State and explain any three rules to detect multicollinearity.		
4	14.a.	Describe Structural reduced form and recursive models.	K5	CO4
		(OR)		
	14.b.	Give a detailed note about identification problem and restrictions in the problem.		
5	15.a.	Describe One sector Model.	K5	CO4
		(OR)		
	15.b.	Discuss the similarities between Mahalonobis model and Harrod-Domar model.		

SECTION -C (30 Marks)

Answer **ANY THREE** questions

ALL questions carry **EQUAL** Marks (3 × 10 = 30)

Module No.	Question No.	Question	K Level	CO
1	16	How will you evaluate the forecasting power of an estimated model? – Explain.	K3	CO1
2	17	Derive the least square estimate the parameters of a multiple regression model with two explanatory variables.	K4	CO2
3	18	Define multicollinearity. Explain the consequences of multicollinearity. How to get solutions? Illustrate.	K4	CO3
4	19	Estimate the parameter of the reduced form of the general linear model using FIML.	K4	CO4
5	20	Critically appraise the Mahalonobis Four Sector Model.	K4	CO4

Z-Z-Z END