

**PSG COLLEGE OF ARTS & SCIENCE
(AUTONOMOUS)**

**MA DEGREE EXAMINATION DECEMBER 2025
(Second Semester)**

Branch - ECONOMICS

ECONOMETRIC METHODS AND APPLICATIONS

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 the primary objective of econometrics? a) To make economic theory more abstract b) To test economic theories using real data c) To collect historical data only d) To forecast political trends	K1	CO1
	2	Trace correct answer of the estimated regression equation is $\hat{Y} = 10 + 2X$, what is \hat{Y} when $X = 5$? a) 12 b) 20 c) 15 d) 0	K2	CO1
2	3	Which one is the general form of a multiple regression equation? a) $Y = \beta_0 + \beta_1 X + u$ b) $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k + u$ c) $Y = \alpha + \epsilon$ d) $Y = X + u$	K1	CO2
	4	Select the correct option of null hypothesis in regression usually states: a) There is no relationship between the independent and dependent variable b) There is a perfect relationship c) The dependent variable is constant d) The error term is zero	K2	CO2
3	5	Which one of the correct option of Multicollinearity affects: a) The dependent variable b) The slope coefficients of independent variables c) Only the intercept d) R^2 only	K1	CO3
	6	Select the any one of the option for Autocorrelation is most commonly found in: a) Cross-sectional data b) Time series data c) Experimental data d) Nominal data	K2	CO3
4	7	What is a time series? a) Data collected at a single point in time b) Data collected over different variables c) Data collected sequentially over time d) Cross-sectional data	K1	CO4
	8	Trace the correct option in forecasting method is best for long-term planning? a) Trend Analysis b) Moving Average c) Naive Method d) Exponential Smoothing	K2	CO4
5	9	What is a simultaneous equation model (SEM)? a) A model with one equation only b) A system of equations where all variables are predetermined c) A system of equations where some variables are both endogenous and exogenous d) A single regression model	K1	CO5
	10	Show the any one of the correct option in PLS focuses more on: a) Theory testing b) Prediction of dependent variables c) Estimating covariance d) Descriptive statistics	K2	CO5

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.	Explain the concept of Econometrics and their Scope.	K2	CO1
	(OR)			
	11.b.	Identify the OLS and their Estimation of a Function.	K3	
2	12.a.	Analyze the Co-efficient of Multiple Determination.	K4	CO2
	(OR)			
	12.b.	Evaluate and estimate the Testing Hypothesis.	K5	
3	13.a.	Explain the concept of Multi-collinearity meaning and their Consequences.	K3	CO3
	(OR)			
	13.b.	Simplify the concept of auto correlation and their sources.	K4	
4	14.a.	Compare the concepts of Stationarity and Non-Stationarity.	K2	CO4
	(OR)			
	14.b.	Identify the Approaches to Economics Forecasting.	K3	
5	15.a.	Construct the concept of Simultaneous Equation Models and their Specification.	K3	CO5
	(OR)			
	15.b.	Develop the model of two-stage least squares and three-stage least squares.	K4	

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	Explain and identify Statistical Tests of Significance of the OLS and their Estimation.	K2, K3	CO1
2	17	Analyze and compare the ANOVA and ANCOVA of Testing the Overall Significance of a Regression.	K4, K5	CO2
3	18	Develop and summarize the meaning of Heteroskedasticity and their sources of remedies.	K3, K4	CO3
4	19	Demonstrate the VAR Model and Panel Data Analysis.	K2, K3	CO4
5	20	Apply and compare the AMOS and PLS models.	K3, K4	CO5

Z-Z-Z

END