



Avinashilingam Institute for Home Science and Higher Education for Women

Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD (now MoE)

Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC

Coimbatore - 641 043, Tamil Nadu, India

Master's Degree Examination – May 2025

II Semester

Class : I P.G.
Major : Economics

Time: 3 Hours
Max. Marks: 100

23MECC10 Econometrics

Course Outcomes:

CO1: Know the basics of model construction with application in consumption and production theory.

CO2: Comprehend the application of ordinary least square estimation and diagnostic testing.

CO3: Apprehend methods to test for and resolve autocorrelation, Heteroscedasticity and Multicollinearity

CO4: Estimate econometric models using real world data.

CO5: Develop analytical skills in the application of econometric techniques.

Part A

10 x 1 = 10

Choose the Correct Answer

- The goal of econometrics is to _____ economic variables. CO1K2
a. design b. forecast c. make d. destroy
- _____ is an interface between economics, statistics and mathematics. CO1K3
a. Economics b. Econometrics c. Ecology d. Environment
- Which one is equal to explained variation divided by total variation? CO2K3
a. Sum of squares due to regression b. Coefficient of Determination
c. Standard Error of Estimate d. Coefficient of Correlation
- The term regression was coined by CO2K2
a. Francis Galton b. Karl Pearson
c. Carl Friedrich Gauss d. William Sealy Gosset
- A sure way of removing multicollinearity from the model is to CO3K3
a. Work with panel data
b. Drop variables that cause multicollinearity in the first place
c. Transform the variables by first differencing them
d. Obtaining additional sample data
- Autocorrelation is generally occurred in CO3K2
a. Cross-section data b. Time series data c. Pooled data d. None of the above
- If in our regression model, one of the explanatory variables included is the lagged value of the dependent variable, then the model is referred to as CO4K4
a. Best fit model b. Dynamic model
c. Autoregressive model d. First-difference form
- Logs are used to transform _____ model to linear model. CO4K2
a. non linear b. ARDL c. dummy d. linear
- Which of the following is not a typical model fit index used in SEM? CO5K2
a. Root mean squared error of approximation (RMSEA) b. Adjusted R-square
c. Comparative fit index (CFI) d. Tucker-Lewis index (TLI)
- If OLS is applied separately to each equation that is part of a simultaneous system, the resulting estimates will be CO5K4
a. Unbiased and consistent b. Biased but consistent
c. Biased and inconsistent d. Unbiased

Part B
Answer ALL questions
Each answer should not exceed 400 words or two pages

5 x 6 = 30

- 11.a. Explain the methodology of econometric research. CO1K3
 (or)
 11.b. What are the goals of econometrics? CO1K2
 12.a. What are the OLS assumptions? CO2K3
 (or)
 12.b. Explain the importance of Gauss Markov Theorem. CO2K4
 13.a. What are the causes of Heteroscedasticity? CO3K3
 (or)
 13.b. Explain the consequences of Auto correlation. CO3K2
 14.a. Explain in brief the stock adjustment model. CO4K3
 (or)
 14.b. What are the steps of reciprocal model in economics? CO4K2
 15.a. What are the differences between structural and reduced form model? CO5K2
 (or)
 15.b. What are the rules for identification in econometrics? CO5K4

Part C
Answer ALL questions
Each answer should not exceed 800 words or four pages

5 x 12 = 60

- 16.a. Analyse the nature and scope of Econometrics. CO1K3
 (or)
 16.b. Bring about the relationship between Mathematical Economics, Econometrics and Economic Statistics. CO1K5
 17.a. Estimate the regression model $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + u$ and interpret the results. CO2K5
 Y : 32 37 44 45
 40
 X1 : 38 67 60 62 58
 X2 : 36 27 24 57 31
 (or)
 17.b. Analyze the procedure for estimating the two-variable regression model and testing the significance of OLS estimates CO2K3
 18.a. Explain the causes and consequences of multicollinearity. CO3K3
 (or)
 18.b. What are the various methods to remove Heteroscedasticity? Explain in detail. CO3K2
 19.a. Explain the uses of dummy variables. CO4K2
 (or)
 19.b. Estimate the semi log model for the following data. CO4K3

Y	4	6	8	10	12
X	7	11	12	27	38

- 20.a. Analyse the fundamentals of two stage least square method. CO5K2
 (or)
 20.b. What are the conditions to select instrumental variable? Explain. CO5K3