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)
Re-accredited with A++ Grade by NAAC. CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Continuous Internal Assessment Test – II (April, 2025)

Class: I P.G **Time: 2 hours**
Major: Economics **Maximum Mark: 60**

23MECC10- ECONOMETRICS

Course Outcomes:

1. Know the basics of model construction with application in consumption and production theory.
2. Comprehend the application of ordinary least square estimation and diagnostic testing.
3. Apprehend methods to test for and resolve autocorrelation, Hetroscadasticity and Multicollinearity.
4. Estimate econometric models using real world data.
5. Develop analytical skills in the application of econometric techniques.

Part-A

Circle the Correct Answer **(6 x 1 =6)**

1. Which of the following assumption is not fulfilled in the simultaneous equation modelling? CO3K1
   a) X is correlated with u b) X is not correlated with u
   c) No Multicollinearity d) No autocorrelation
2. Durbin Watson test is used to identify which one of the following problem? CO3K1
   a) Hetroscedasticity b) Multicollinearity c) Autocorrelation d) both a & c
3. When is the problem of dummy variable trap occur? CO5K2
   a) When we take dummy variable more than the categories
   b) when we take dummy variable less than the categories
   c) when we take dummy variable equal to the categories
   d) both a & c ^
4. Under the least square procedure lesser the U_i, the lower the CO2K2
   a) Standard error b) Regression error
   c) Squared sum of residuals d) difference between true parameter and estimated parameter.
5. If Ui Uj is correlated, It is known as CO4K2
   a. Autocorrelation b. Multicollinearity c. Hetroscadesticity d. Lagged variables
6. Which one the following is the order condition in identification CO5K2
   a. K-M>G-1 b. K-M<G-1 c. K-M=0 d.G-1=0

Part - B

Answer the following.
Answers should not exceed 400 words or two pages. **(3 x 6 = 18)**

7.a. State the consequences of Multicollinearity . CO5K2

(OR)

b. Explain instrumental variable method. CO5K3

8.a. Estimate the regression equation y=a+bx for the following data CO4K3

Age	43	21	25	42	57	59
Glucose level	99	65	79	75	87	81

(OR)

b. Explain the steps involved in Glejser test. CO4K3

9.a. Discuss the steps involved in the removal of autocorrelation. CO3K4

(OR)

b. Estimate Adjusted R^2, when R^2 = 0.6410828, 2 predictors and 10 observations CO4K3

Part –C

Answer should not exceed 800 words or four pages **(3 x 12=36)**

10.a. Identify the order condition and rank condition CO4K4

$Y_1 = 3Y_2 – 2X_1 + X_2 + U_1$
$Y_2 = Y_1 + X_3 + U_2$
$Y_3 = Y_1 – Y_2 – 2X_3 + U_3$

(OR)

b. Discuss stock adjustment model CO4K3

11.a. Estimate the log log model for the following data CO5K4

X	4	6	9	9	13
Y	8	11	13	26	16

(OR)

b. Formulate Spearman Rank correlation test CO3K3

12.a. The following results were obtained with respect to two variables x and y: Σx = 30, Σy = 52, Σxy = 200, Σx2 = 187, Σy2 = 418, Σn = 6 Find the following:
(i) The regression coefficients. (ii) Correlation coefficient between x and y. CO4K3

(OR)

b. Explain partial adjustment model. CO4K3

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