

MASTER OF ARTS EXAMINATION, 2024

(2nd Year, 1st Semester, Supplementary)

ECONOMICS

[ADVANCED ECONOMETRICS I]

Time : Two hours

Full Marks : 30

1. (a) Explain the concept of Generalized Method of Moments (GMM) estimator.
- (b) Show that OLS estimator is a special case of GMM Estimator.
- (c) Explain the concept of continuously updated GMM estimator.

OR,

[3+ 4+ 3]

2. Let the true model be

$$Y_i = \beta_1 + \beta_2 x_{2i} + \beta_3 x_{3i} + u_i \quad (1).$$

However, due to some mistake, the researcher has not included x_{3i}

Thus, the under fitted model is

$$Y_i = \beta_1 + \beta_2 x_{2i} + v_i \quad (2).$$

Discuss the effect of estimation of the equation (2) on

- (i) the properties of the estimators of β_2 and β_1 and
- (ii) the test of hypothesis of β_2

[Turn over

3. What is the source of simultaneous equation bias in dynamic panel framework? Why are the lagged dependent variables introduced in the set of explanatory variables in dynamic panel framework? Discuss the concept of Nickell's bias.

[5+4+6=15]

OR,

4. Discuss Heckman two step estimation method. Compare Maximum likelihood method and two step estimation method.
5. Write Short note on (any one)
- (a) Test based on Box Cox transformation.
 - (b) Heteroscedastic and autocorrelation consistent (HAC) estimator
 - (c) Full information Maximum Likelihood estimation method

[5]