

**Avinashilingam Institute for Home Science and Higher Education for Women,  
Coimbatore – 641 043**

**Master's Degree Examination – November 2017  
Semester - III**

Class: II PG  
Major: Economics

Time: 3 hours  
Max. Marks : 60

**12MECC17 Econometrics**

**Part – A (10 x ½ = 5)**

**Choose the correct answer**

1. Multiple linear regression model is the basic tool for
  - a) econometrics
  - b) economics
  - c) mathematical economics
  - d) statistics
2. The values of dependent variables depend on the values of
  - a) observed value
  - b) independent variables
  - c) Economic data
  - d) empirical data
3. Dependent variable is sometimes called as
  - a) explanatory variable
  - b) independent variable
  - c) regressand
  - d) none of these
4. An experiment is a procedure carried out to validate a
  - a) samples
  - b) object
  - c) theory
  - d) hypothesis
5. The equation of a linear (straight line) relationship between two variables, Y and X, is
  - a)  $Y_i = \beta_0 + \beta_1 X_i + u_i$
  - b)  $Y_i = \beta_0 - \beta_1 X_i$
  - c)  $Y_i = \beta_0 / \beta_1 X_i / u_i$
  - d)  $Y_i = \beta_0 * \beta_1 X_i * u_i$
6.  $Y = aX + b$ . In the equation X is
  - a) dependent variable
  - b) independent variable
  - c) stochastic variable
  - d) all the above
7. Autocorrelation, also known as
  - a) rank correlation
  - b) extension of regression
  - c) serial correlation
  - d) index number
8.  $Y_t = \beta y_{t-1} + e_t$ , this equation represents
  - a) single equation model
  - b) multiple linear regression model
  - c) two way analysis
  - d) lagged model
9. Farrar Glaubar test is to test
  - a) multicollinearity
  - b) autocorrelation
  - b) regression
  - d) heteroscedasticity
10. In econometrics, the lagged values represent the value of
  - a) current period
  - b) past period
  - c) future period
  - d) all the above

**Part – B**

**(5 x 4 = 20)**

**Answer ALL Questions**

**Answer should not exceed 200 words or one page**

11.a) What are the goals of econometrics?

(or)

11.b) Discuss the relationship between econometrics and mathematical economics?

12.a) What are the properties of OLS?

(or)

12.b) The sample information is given as:  $\sum x = 708.6$ ,  $\sum y = 110.6$ ,  $\sum xy = 3258.46$ ,  
And  $\sum x^2 = 21464.7$ . Estimate the linear regression.

13.a) Describe the causes of heterocedasticity

(or)

13.b) What are the consequences of multicollinearity?

14.a) Describe the adaptive expectation model

(or)

14.b) Discuss the applications of lagged models in economics.

15.a) What are the uses of dummy variables?

(or)

15.b) Discuss about the linear-log model in econometrics?

**Part – C**

**(5 x 7 = 35)**

**Answer ALL Questions**

**Answer should not exceed 600 words or three pages**

16.a) Discuss the scope of econometrics

(or)

16.b) Explain the methodology of econometrics

17.a) Explain the properties of a good estimator

(or)

17.b) The following table includes the price and supply for the product

Price (X)	1	3	4	5	7
Supply (Y)	2	4	5	7	12

(i) Estimate the supply function for the product  $Y = \beta_0 + \beta_1 X + u$

(ii) Find  $R^2$  and interpret the result.

18.a) Given the following data

X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Y	2	2	2	1	3	5	8	11	12	10	10	12	15	10	11

Test the problem of Heteroscedasticity with the help of Goldfeld-Quandt.

(or)

18.b) Discuss Durbin Watson 'd' statistic.

19.a) Estimate the Koyek distributed lag model of  $C_t = \alpha_0 + \beta_0 Y_t + \beta_1 Y_{t-1} + \beta_2 Y_{t-2} + \dots + u_t$

C	20	11	13	20	24	27	31	35	39	43
Y	12	13	15	17	20	23	27	29	34	38

(or)

19.b) Explain the reasons for lags.

20.a) Explain the functional forms of dummy variable models

(or)

20.b) Discuss the features of dummy variable models.