



Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University under Category 'A' by MHRD, Estd. u/s 3 of UGC Act 1956)
Re-accredited with 'A+' Grade by NAAC. Recognised by UGC Under Section 12B
Coimbatore - 641 043, Tamil Nadu, India

Bachelor's Degree Examination - January 2021
V Semester

Class : III UG

Major : Economics

Time : 3 Hours

Max. Marks : 100

18BECC15 - Basic Econometrics I

PART A

10 x 1 = 10

Choose the Correct Answer

1. In $Y = \beta_1 + \beta_2 x + U$, Y is
 - a. Independent variable
 - b. Random term
 - c. Dependent variable
 - d. Explanatory variable
2. Data that has both time series and cross sectional component is called
 - a. Panel data
 - b. Sample data
 - c. Time series data
 - d. Cross section data
3. The power of a test statistic is high if
 - a. Type II error is high
 - b. Sample size is more
 - c. Null hypothesis is true
 - d. None of the above
4. The residual from the standard regression model is defined as
 - a. Difference between y and \hat{y}
 - b. Difference between Y and \hat{Y}
 - c. Difference between \hat{y} and Y
 - d. All the above
5. What is the full form of OLS
 - a. Ordinary least Squares
 - b. Ordinary least sample
 - c. Ordinary statistical sample
 - d. Ordinary least statistics
6. R^2 refers to
 - a. Correlation coefficient
 - b. Coefficient of determination
 - c. Square of correlation coefficient
 - d. Both b and c
7. What is heteroscedasticity?
 - a. The errors have zero mean
 - b. Variance of errors is not constant
 - c. variance of dependant variable is not constant
 - d. Variance of independent variable is constant
8. Accepting the hypothesis when it is not true is
 - a. Hypothesis error
 - b. Type I error
 - c. Type II error
 - d. Statistical error
9. The estimate on an explanatory variable is not statistically significant at 5 % if
 - a. if p value is less than 0.05
 - b. if p value is greater than 0.95
 - c. if t statistic is greater than 2.5
 - d. 95 % confidence interval does not include 0
10. SPSS stands for
 - a. Statistical Package for the Social Sciences
 - b. Statistics for Science and Society

Part B**5 x 6 = 30****Answer ALL questions****Each answer should not exceed 400 words or two pages**11. a. For the given lines of regression $3X-2Y=5$ and $X-4Y=7$. Find the Regression coefficient'

(or)

11.b. Explain the aims of Econometrics.

12.a. Discuss adjusted R square.

(or)

12.b. State the properties of OLS technique.

13.a. Write a note on confidence intervals.

(or)

13.b. What is the role of stochastic error term u in regression analysis?

14.a. Discuss the relationship between mathematical economics and econometrics.

(or)

14.b. Suppose the following production function is $Q = .5LK - .1L - .05K$

The process per unit of L and K are Rs.20 and Rs.25 respectively. For maximizing output the budget constraint is Rs. 500. Solve for the optimal values for K and L

15.a. What are the cautions in the use of dummy variables?

(or)

15.b. Write the steps to conduct chow test in SPSS.

Part C**5 x 12 = 60****Answer ALL questions****Each answer should not exceed 800 words or fourpages**

16.a. Explain the various steps involved in the methodology of Econometrics.

(or)

16.b. Calculate the regression coefficient and obtain the lines of regression for the following data

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

17.a. Describe the properties of a good estimator for small and large samples.

(or)

17.b. State and explain Gauss Markov theorem.

18.a. Explain Analysis of Variance.

(or)

18.b. What are the precautions that are to be adopted in the use of dummy variables.

19.a. Explain the process of de seasonalisation using dummy variables.

(or)

19.b. Explain the need for dummy variables.

20.a. Write down the procedure for creating dummy variables in SPSS.

(or)

20.b. What is SPSS? Explain its importance in research and data analysis.
