

D 110879

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Name.....

Reg. No.....

**THIRD SEMESTER M.A. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, NOVEMBER 2024**

(CBCSS)

Economics

ECO 3C 11—BASIC ECONOMETRICS

(2019 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Part A (Multiple Choice Questions)

*Answer all **fifteen** questions.
Each question carries 1/5 mark.*

1. Conditional expectation means :
 - a) The expected value of a random variable, computed with respect to a conditional probability distribution.
 - b) It is simply the expected value, $E(y_t)$.
 - c) Both a) and b).
 - d) None of the above.
2. Panel data is known as :
 - a) A data set constructed for one variable over a period.
 - b) A data set constructed for different variables at a point of time.
 - c) Both a) and b).
 - d) None of the above.
3. Which among the following is true for OLS estimators ?
 - a) Among all linear, unbiased estimators, the estimator with the smallest variance.
 - b) OLS estimators are BLUE.
 - c) OLS estimators are best.
 - d) All the above.

Turn over

4. Endogeneity means :
- a) Endogenous explanatory variable.
 - b) Dummy Variable.
 - c) Error variable.
 - d) None of the above.
5. Which among the following is a test for autocorrelation ?
- a) Dickey-Fuller (DF) Test.
 - b) Durbin-Watson (DW) d Statistic.
 - c) KPSS test.
 - d) Both a) and b).
6. Which among the following is true regarding the Type I error ?
- a) Accept the alternative hypothesis when it is true.
 - b) Cannot accept alternative hypothesis.
 - c) A rejection of the null hypothesis when it is true.
 - d) None of the above.
7. A variable one which takes an infinite number of possible values is known as :
- a) Constant term.
 - b) Disturbance term.
 - c) Stochastic error term.
 - d) Continuous random variable.
8. A statistic that summarizes how well a set of explanatory variables explains a response variable is called :
- a) Correlation co-efficient.
 - b) Covariance.
 - c) Multicollinearity.
 - d) Goodness of fit measure.
9. Homoscedasticity means :
- a) The variance of the error term is zero.
 - b) The variance of the error term is one.
 - c) The variance of the error term is constant.
 - d) None of the above.

10. A parameter is :
- a) An unknown value describes a population relationship.
 - b) An unknown value describes a sample relationship.
 - c) An unknown value describes an error value.
 - d) None of the above.
11. _____ is a statistical test to determine whether two population means are different when the variances are known and the sample size is large
- a) t test.
 - b) Z test.
 - c) F test.
 - d) D statistic.
12. Upward bias indicates :
- a) The expected value of an estimator is greater than the population parameter value.
 - b) The expected value of an estimator is less than the population parameter value.
 - c) The expected value of an estimator is equal to the population parameter value.
 - d) None of the above.
13. In multiple regression analysis :
- a) There are two variables in the model.
 - b) There is more than one exogeneous variable.
 - c) There are one endogenous and one exogenous variable.
 - d) All the above.
14. A function where the change in the dependent variable, given a one-unit change in an independent variable, is constant is called :
- a) Non-linear function.
 - b) Linear function.
 - c) Quadratic function.
 - d) None of the above.
15. Which among the following is a cause of autocorrelation :
- a) Specification error.
 - b) Inertia.
 - c) Both a) and b).
 - d) None of the above.

(15 × 1/5 = 3 weightage)

Turn over

Part B (Very Short Answer Questions)

*Answer any **five** questions out of eight questions.
Each question carries 1 weightage.*

16. Define BLUE.
17. What do you mean by Stochastic error term ?
18. What is p value ?
19. What do you mean by co-efficient of determination ?
20. Define Linearity.
21. What is F test ?
22. Define Regression.
23. What do you mean by type II error ?

(5 × 1 = 5 weightage)

Part C (Short Answer Questions)

*Answer any **seven** questions out of ten questions
Each question carries 2 weightage.*

24. Briefly discuss the causes and consequences of autocorrelation.
25. Distinguish between R^2 and Adjusted R^2 .
26. Write a brief note on Piecewise linear regression.
27. What do you mean by restricted least squares ? Explain.
28. Briefly discuss the stochastic assumptions of classical linear regression model.
29. Write a short note on properties of OLS estimators.
30. Explain the method of maximum likelihood.
31. Write a short note on the role of dummy variables in seasonal analysis.
32. Write brief note on RESET.
33. Explain the problem of Heteroscedasticity. What are the remedial measures to solve the problem of heteroscedasticity ?

(7 × 2 = 14 weightage)

Part D (Essay Questions)

*Answer any **two** questions out of four questions.*

Each question carries 4 weightage.

34. Define Econometrics. Explain the scope and methodology of econometrics.
35. Briefly discuss the ANOVA and ANCOVA models.
36. Elaborate the types, detection and consequences of specification error.
37. Briefly discuss the linear probability models.

(2 × 4 = 8 weightage)