

C 42623

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Name.....

Reg. No.....

SECOND SEMESTER M.A. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2023

(CBCSS)

Econometrics

ECM 2C 05—ECONOMETRIC THEORY—I

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Part A (Multiple Choice Questions)*Answer all questions.**Each bunch of five questions carries 1/5 weightage.*

1. The hypothesis against which the null hypothesis is tested is known as :
 - a) Null Hypothesis.
 - b) Alternative Hypothesis.
 - c) Both a) and b).
 - d) None of the above.
2. A test for heteroskedasticity where the squared OLS residuals are regressed on the explanatory variables in the model :
 - a) Durbin Watson.
 - b) White Test.
 - c) Breusch-Pagan Test.
 - d) Dickey-Fuller (DF) Test.
3. Chow Statistic is :
 - a) An F statistic for testing the equality of regression parameters across different or time periods.
 - b) Obtained by adding the squares of independent standard normal random variables.
 - c) The notion that a linear combination of two series.
 - d) All the above.

Turn over

4. Conditional expectations means :
- The expected or average value of one random variable, called the dependent variable, that depends on the values of one or more other variables, called the independent variables.
 - Future values of some explanatory variables are known with certainty.
 - A function that gives the probability of a random variable being less than or equal to any specified real number.
 - None of the above.
5. A measure of linear dependence between two random variables that does not depend on units of measurement :
- Co-efficient of determination.
 - Correlation Co-efficient.
 - Co-efficient of Variation.
 - Both b) and c).
6. The variance of the error term in a multiple regression model :
- Error term.
 - Errors in variables.
 - Error Correction model.
 - Error variance.
7. A statistic used to test multiple hypotheses about the parameters in a multiple regression model is :
- TStatistic.
 - D statistic.
 - F statistic.
 - None of the above.
8. A function where the change in the dependent variable, given a one-unit change in an independent variable, is constant
- Non linear function.
 - Linear function.
 - Both a) and b).
 - None of the above.
9. A type of analysis that is used to describe estimation of and inference in the multiple linear regression model.
- Multiple Restriction.
 - Multiplicative Measurement Error.
 - Multiple Step Ahead Forecast.
 - Multiple Regression Analysis.

10. Observations in a data set that are substantially different from the bulk of the data :
- a) Outliers.
 - b) Out of sample criteria.
 - c) Overdispersion.
 - d) All the above.
11. The smallest significance level at which the null hypothesis can be rejected :
- a) t value.
 - b) z value.
 - c) f value.
 - d) p value.
12. Regression analysis where the intercept is set to zero and the slopes are obtained by minimizing the sum of squared residuals, as usual is called :
- a) Multiple Regression.
 - b) Regression.
 - c) Regression through origin.
 - d) None of the above.
13. An unbiased, consistent estimator of the population variance is :
- a) Population variance.
 - b) Sample variance.
 - c) Both a) and b).
 - d) None of the above.
14. The normal distribution with mean zero and variance one
- a) Standard Error.
 - b) Standardized Random Variable.
 - c) Standardized Co-efficient.
 - d) Standard Normal Distribution.
15. An estimator whose expected value equals the population value is called :
- a) Biased Estimator.
 - b) Estimator.
 - c) Unbiased Estimator.
 - d) None of the above.

(15 × 1/5 = 3 weightage)

Part B (Very Short Answer Questions)

Answer any five questions.

Each question carries 1 weightage.

16. Define Stochastic Error term.
17. What is Co-efficient of Determination ?
18. Define T test.
19. What do you mean by normality assumption ?

Turn over

20. Define Multicollinearity.
21. What do you mean by correlation ?
22. What is RESET ?
23. Define Dummy Variable Trap.

(5 × 1 = 5 weightage)

Part C (Short Answer Questions)

Answer any seven questions.

Each question carries weightage of 2.

24. Explain the nature and scope of Econometrics.
25. Briefly explain the hypothesis testing.
26. Write a short note on R Square and Adjusted R Square
27. Explain Piecewise Linear regression model.
28. What do you mean by Restricted Least Square ?
29. Write a short note on Log log model.
30. Explain the use of Dummy variable ?
31. Briefly discuss the types of Specification errors. Explain the consequences of Specification Errors.
32. Write a short note on the properties of Estimators.
33. What do you mean by ANOVA and ANCOVA models ? Explain.

(7 × 2 = 14 weightage)

Part D (Essay Questions)

Answer any two questions.

Each question carries 4 weightage.

34. Describe the methodology of Econometrics. Explain the use of Econometrics.
35. Discuss about the assumptions of Classical Linear Regression Model.
36. State Gauss Markov Theorem. Prove that OLS estimators are BLUE.
37. What do you mean by Autocorrelation ? Write on its causes. Discuss the procedure of Durbin Watson.

(2 × 4 = 8 weightage)