

D 140513

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Name.....

Reg. No.....

**SECOND SEMESTER M.A. DEGREE (REGULAR/SUPPLEMENTARY)
EXAMINATION, APRIL 2026**

(CBCSS)

Econometrics

ECM2C05—ECONOMETRIC THEORY—I

(2020 Admission onwards)

Time : Three Hours

Maximum : 30 Weightage

Part A (Multiple Choice Questions)*Answer all questions.**Each question carries a weightage of 0.20.*

1. Which among the following is a test for heteroskedasticity ?
 - (a) White Test.
 - (b) Breusch-Pagan Test.
 - (c) Dickey-Fuller (DF) Test.
 - (d) Both (a) and (b) are correct.
2. Chow test is meant to :
 - (a) Assess the stability of co-efficients β in a multiple linear regression model of the form $y = X\beta + \varepsilon$.
 - (b) Splits the data at specified break points.
 - (c) Co-efficients are estimated in initial subsamples, then tested for compatibility with data in complementary sub samples.
 - (d) All the above.
3. Conditional expectations indicate that :
 - (a) 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.
 - (b) Future values of some explanatory variables are known with certainty.
 - (c) A function that gives the probability of a random variable being less than or equal to any specified real number.
 - (d) None of the above.

Turn over

4. 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) Both (a) and (b). (d) None of the above.
5. Measures the probability of obtaining the observed results, assuming that the null hypothesis is true.
- (a) t value. (b) z value
(c) f value. (d) p value.
6. Regression analysis where the intercept is set to zero and the slopes are obtained by minimizing the sum of squared residuals, as usual is known as _____.
- (a) Multiple Regression. (b) Regression.
(c) Regression through origin. (d) None of the above.
7. A probability distribution has a mean of zero and variance one is called :
- (a) Standard Error.
(b) Standardized Random Variable.
(c) Standardized Coefficient.
(d) Standard Normal Distribution.
8. An estimator whose expected value equals the population value is called :
- (a) Biased Estimator. (b) Estimator.
(c) Unbiased Estimator. (d) Both (a) and (c) are correct.
9. Which among the following is true regarding specification bias ?
- (a) The bias that arises from including an irrelevant variable in a model.
(b) The bias that arises from excluding a relevant variable in a model.
(c) The bias that arises only from a linear regression model.
(d) Both (a) and (b) are correct.

10. Panel data is :

- (a) A data set constructed from repeated cross sections overtime.
- (b) A data set constructed for one variable over a period.
- (c) A data set constructed for different variables at a point of time.
- (d) None of the above.

11. Endogeneity is related to :

- (a) Endogenous Error variance.
- (b) Endogenous explanatory variable.
- (c) Dummy Variable.
- (d) None of the above.

12. Type I error is :

- (a) A rejection of the null hypothesis when it is true.
- (b) Accept the alternative hypothesis.
- (c) Cannot accept alternative hypothesis.
- (d) None of the above.

13. Statistical procedure for analysis of data involving more than one type of measurement is known as :

- (a) Multivariate analysis.
- (b) Univariate analysis.
- (c) Bivariate analysis.
- (d) None of the above.

14. 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.

Turn over

15. In multiple regression analysis.

- (a) There are more than two variables in the model.
- (b) There is more than one exogenous variable.
- (c) There are one endogenous and one exogenous variable.
- (d) Both (a) and (b) are correct.

(15 × 1/5 = 3 weightage)

Part B (Very Short Answer Questions)

*Answer any **five** questions.*

Each question carries a weightage of 1.

- 16. Define cross section data.
- 17. What is nominal scale variable ?
- 18. What is F-test ?
- 19. What do you mean by parametric test ?
- 20. Define exogeneity.
- 21. What do you mean by auxiliary regression ?
- 22. Define binary variable.
- 23. What is co-efficient of determination ?

(5 × 1 = 5 weightage)

Part C (Short Answer Questions)

*Answer any **seven** questions.*

Each question carries a weightage of 2.

- 24. Briefly discuss the methodology of econometrics.
- 25. Distinguish between PRF and SRF.
- 26. Explain the maximum likelihood method of estimation.
- 27. Briefly point out the confidence interval method and p value method of testing hypothesis.
- 28. What do you mean by reciprocal models ?

29. What are the properties of an estimator ? Explain.
30. Explain the different types of Specification errors. Discuss the remedial measures of specification errors.
31. Describe the ANCOVA model of dummy variables.
32. Write a brief note on multiple regression.
33. State Gauss Markov theorem. Prove OLS estimators are BLUE.

(7 × 2 = 14 weightage)

Part D (Essay Questions)

*Answer any **two** questions.*

34. Describe the assumptions of classical linear regression model
35. Distinguish between R^2 and adjusted R^2 .
36. Define Autocorrelation? Give a brief account on the causes, consequences and remedial measures of autocorrelation
37. Explain the use dummy variables in economic analysis.

(2 × 4 = 8 weightage)