

D 52046

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Name.....

Reg. No.....

THIRD SEMESTER P.G. DEGREE EXAMINATION, NOVEMBER 2018

(CCSS)

Economics

ECO 3C 10—ECONOMETRICS

(2013 Admissions)

Time : Three Hours

Maximum : 80 Marks

Part A

Answer all questions.

Each question carries 1 mark.

1. In a double log model of type $\log Y_i = \alpha \log X_i$ the co-efficient α stands for the :
(a) Elasticity. (b) Slope and Elasticity.
(c) Slope. (d) Slope, not Elasticity.
2. A method for detecting autocorrelation in autoregressive models is :
(a) The Park test. (b) Durbin h test.
(c) Chow test. (d) The Runs test.
3. By classical regression method the conditional mean value of the disturbance u_i is :
(a) One. (b) Constant.
(c) Zero. (d) None of the above cases.
4. When a linear function is fitted to non-linear data set it will result in :
(a) Specification error. (b) Sampling error.
(c) Measurement error. (d) None of the above cases.
5. One of the methods for testing the simultaneity problem is :
(a) Hausman specification error test. (b) Carpet plot.
(c) Chow test. (d) Durbin-Watson d test.
6. The commonly used single equation model are :
(a) Ordinary Least Squares. (b) Indirect Least Squares.
(c) 2 Stage Least Squares. (d) All of the above three cases.

Turn over

7. Which of the following models is used to regress on dummy dependent variable?
- (a) The LPM model. (b) The tobit model.
(c) The logit model. (d) All of the above.
8. Which of the following tests is used to detect causality between economic variables ?
- (a) Cox test. (b) Granger test.
(c) Almon test. (d) Durbin h test.
9. Which among the following are the system method of estimation ?
- (a) Least squares method. (b) Full Information Maximum likelihood method.
(c) Limited Information method. (d) None of the above.
10. If a model includes one or more lagged values of the dependent variable among its explanatory variables the model is called:
- (a) Distributed lag model. (b) Adaptive expectation model.
(c) Autoregressive model. (d) Rational expectation model.

(10 × 1 = 10 marks)

Part B

*Answer any eight questions.
Each question carries 5 marks.*

11. Explain simultaneity bias. How to overcome the bias ?
12. How to use matrix algebra to express ANOVA table for k-variable linear regression ?
13. What are the sources of specification errors ? Explain.
14. Discuss the Koyck approach to distributed-lag models.
15. Discuss the sources of multicollinearity.
16. What do you mean by serial correlation ? Explain.
17. Explain Gauss-Markov theorem.
18. What is the role of disturbance term in an econometric model ? Explain.
19. Explain the assumptions of Durbin-Watson d statistics.
20. Discuss the methods of detecting heteroscedasticity.
21. What is identification problem ? What are the rules for identification ? Explain.
22. What do you mean by dummy variable trap ? How to overcome the trap ?

(8 × 5 = 40 marks)

Part C

*Answer any two questions.
Each question carries 15 marks.*

23. Derive normal equations using the method of least squares for a simple linear regression model.
24. Given a data set relating to rate of inflation for 10 years :

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Consumer Price Index	9.7	14.97	9.47	6.49	11.17	9.13	5.86	6.32	2.23	4

Estimate the trend growth of inflation rate using the model $\log(\text{inflation}) = \alpha + \beta(\text{Time})$.

25. Discuss the Durbin h test as a method for detecting autocorrelation in autoregressive models.
26. Discuss various non-linear functional forms of regression models.

(2 × 15 = 30 marks)