Reg. No. :

Name : .....

K20P 0240

II Semester M.A. Degree (CBSS - Reg./Suppl./Imp.)

Examination, April 2020 (2014 Admission Onwards)

## ECONOMICS/APPLIED ECONOMICS/DEVELOPMENT ECONOMICS

ECO 2C09 : Basic Econometrics

Max. Marks: 60

## PART - A

(Answer all the eight questions in Part - A. Each question carries 1/2 mark.)

- 1. Which among the following is not used for detecting autocorrelation?
  - A) BG Test

Time: 3 Hours

B) Durbin Watson d

C) BPG Test

- D) Runs Test
- 2. When all the equations are exactly identified, one can use the method of
  - A) ILS

B) OLS

G) GLS

- D) All the above
- 3. A confidence interval consists of
  - A) A confidence level
- B) A statistic
- C) A margin of error
- D) All the above
- 4. Choose the correct pair :
  - A) Chow test

- Autocorrelation
- B) Breusch-Godfrey test
- Residual normality
- C) Goldfeld-Quandt test
- Heteroscedasticity
- D) Jarque-Bera test
- Structural change

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5. In the econometric mod	el, Y= $\alpha$ + $\beta$ X, $\beta$ indica	tes	
A) Lag	B) Intercep	pt	
C) Slope	D) Error		
6. The mean value of the		s its true value, th	ne property is
A) Linearity	B) Unbiase	edness	
C) Consistency	D) Efficien	су	
7. OLS regression model r	nust be linear in		
A) Parameters	B) Variable	es	
C) Both A) and B)	D) None		
8. Which among the followi	ng is not a distribution	free test?	
A) Kruskal-Wallis test	B) Student	t's t test	
C) Fisher-Irwin test	D) Wilcoxo	on test	(8×½=4
	PART – B		
(Answer any eight question should exceed one page.)	and the second of the second o	tion carries 2 mar	ks. No answer
9. Define a random variable	e,		
10. What is meant by bias in	regression?		
11. Define econometrics.			
12. What is Breusch-Pagan	test?		
13. Point out the rank condit	tion of identification.		
14. What do you mean by fo	recasting?		
15. Explain the significance	of error term in regres		
16. OLS estimator is not app	propriate in a simultane	eous equation. W	hv?

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- 17. What is cross-sectional data?
- 18. Interpret the coefficients of linear regression model :  $y_i = \alpha + \beta x_i + u_i$ .
- 19. Prepare a short note on Gauss-Markov Theorem.  $(8 \times 2 = 16)$

## PART - C

(Answer any four questions in Part C. Each question carries 5 marks. No answer should exceed two and half pages.)

- 20. Explain the steps involved in the White's test for heteroscedasticity.
- 21. Prepare a note on 2SLS.
- 22. Mathematically derive coefficients using OLS method for the regression function :  $y_i = \beta_1 + \beta_2 x_i + u_i.$
- 23. Examine the meaning and properties of Indirect Least Squares.
- 24. Explain analysis of variance in regression.
- 25. Explain the remedies for the problem of multicollinearity.  $(4 \times 5 = 20)$

## PART - D

(Answer any two questions in Part D. Each question carries 10 marks. No answer should exceed six pages.)

- 26. Explain the methodology of Econometrics.
- 27. State and prove the properties of OLS regression estimators.
- 28. Estimate regression equations Y on X and X on Y using the following sample data of a two variable regression model:

$$\sum X_i = 60$$
,  $\sum Y_i = 120$ ,  $\sum X_i^2 = 540$ ,  $\sum Y_i^2 = 1200$ ,  $\sum X_i Y_i = 620$ , Sample size = 30.

29. Discuss in detail the problem of autocorrelation, its consequences in the presence of OLS estimation and the methods of detection.  $(2\times10=20)$