Register Number:

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**ST.JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE- 27**

M.A. ECONOMICS–IV SEMESTER

SEMESTER EXAMINATION-  April2018

**EC 0116 Advanced Econometrics**

**Time : 21/2 hrs                                                                   Maximum marks : 70**

**This paper contains 2 printed page and 3 parts**

**PART A Answer any TEN of the following 2 X10=20**

1. What is Granger causality?
2. Write the equation of an ARDL model.
3. Why is it unnecessary to apply the two-stage least-squares method to exactly identiﬁed equations?
4. What is order condition of identiﬁcation?
5. Explain the concept of deterministic and stochastic trends.
6. Define autocorrelation.
7. What is Unit root test?
8. Define covariance stationary.
9. What is an ACF function?
10. What is meant by an integrated time series?
11. Give the meaning of the term spurious regression.
12. What is the error correction mechanism (ECM)?

**PART B Answer any TWO of the following 10 X2=20**

1. a. Explain the Koyck model.
2. Whenever the lagged dependent variable appears as an explanatory variable, the R2 is usually much higher than when it is not included. What are the reasons for this observation?
3. How will you test presence of endogeneity problem? Explain the indirect least square method of estimation.
4. Explain the problem of trend stationary and difference stationary in time series analysis. How will you correct each one of these problems?

**PART C Answer any TWO of the following 15 X2=30**

1. From the quarterly data for the period 1950–1960, following demand function for labor was obtained the for an economy(the ﬁgures in parentheses are standard errors)



Where Et = (Et - Et-1), Q = output and t = time

The preceding equation was based on the assumption that the desired level of employment Et\* is a function of output, time, and time squared and on the hypothesis that Et - Et-1 = δ (Et\* - Et-1), Where δ , the coefficient of adjustment, lies between 0 and 1.

1. Interpret the regression.
2. What is the value of δ?
3. How would you test for serial correlation in the model?
4. Consider the following modiﬁed Keynesian model of income determination:



where C = consumption expenditure

 I = investment expenditure

 Y = income

 G = government expenditure

 Gt and Yt-1 are assumed predetermined

1. Obtain the reduced-form equations and determine which of the preceding equations are identiﬁed (either just or over).
2. Which method will you use to estimate the parameters of the over-identiﬁed equation and of the exactly identiﬁed equation? Justify your answer.
3. From the U.K. private sector housing starts (X) for the period 1948 to 1984, Terence Mills obtained the following regression results



Note: The 5 percent critical ז value is -2.95 and the 10 percent critical ז value is -2.60.

1. On the basis of these results, is the housing starts time series stationary or nonstationary? Alternatively, is there a unit root in this time series? How do you know?
2. If you were to use the usual t test, is the observed t value statistically signiﬁcant? On this basis, would you have concluded that this time series is stationary?