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Register Number:

Date:

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

**M.A. ECONOMICS - IVSEMESTER**

**SEMESTER EXAMINATION: APRIL 2020**

**EC 0118: ADVANCED ECONOMETRICS**

**Time: 2.5 Hours Maximum Marks - 70**

**This question paper has 2 printed page and 3 parts**

**Part A. Answer any FIVE of the following 2 X 5=10**

1. Differentiate between an autoregressive and a distributed lag model.
2. What is simultaneous equation bias? Explain with the help of an example.
3. A simple macroeconomic model consists of a consumption function and an income identity: *C = α + β Y + u and* Y = C + I

where C is aggregate consumption, I is aggregate investment, Y is aggregate income, and u is a disturbance term. On the assumption that I is exogenous, derive the reduced form equations for C and Y.

1. Give the meaning of the term spurious regression.
2. What is the difference between trend stationary and difference stationary process?
3. State the advantages of panel data models over cross sectional econometric models.
4. Explain the difference between OLS method and MLE method in brief.

**Part B. Answer any THREE of the following 10 X 3 =30**

1. Discuss the adaptive expectation model.
2. Explain the Two-stage least square (2SLS) method of estimating simultaneous equation with the help of an example.
3. Suppose that Yt is determined by the process



where ԑt is iid. Show that the process for $Y\_{t}$ is nonstationary unless λ takes a certain value.

1. Write a note on cointegration and error correction model.
2. Explain the Tobit model and its estimation.

**Part C. Answer any TWO of the following 15 X 2 =30**

1. Discuss the Koyck transformation model along with its limitations. Show how Almon’s distributed lag model is better than Koyck model.
2. Explain the graphical and non-graphical ways of deciding non-stationary models and the order of AR and MA.
3. State the rank and order condition for identification. Consider a four equation IS-LM model



where Ct is consumption, $I\_{t}$ is investment, Rt is the rate of interest, Yt is income, $M\_{t}$ is the money stock and $Z\_{t}$ is autonomous expenditure. Check for rank and order condition for each one of the equations.