

M.A. 1st YEAR 2nd SEMESTER, 2019

SUBJECT: ECONOMICS

PAPER: ECONOMETRICS II (OLD SYLLABUS)

TIME: 2hours

Full Marks 30

1. A. Consider a simultaneous equations system consisting of G number of endogenous and K number of exogenous variables. Write the system of equations in a matrix form and derive reduced form of the model. [3+2]
- b. Consider the following simultaneous equation system

$$C_t = -\gamma_{11} - \alpha_{14}Y_t + u_{1t}$$

$$I_t = -\gamma_{21} - \alpha_{23}R_t - \alpha_{24}Y_t + u_{2t}$$

$$R_t = -\alpha_{34}Y_t - \gamma_{32}M_t + u_{3t}$$

$$Y_t = C_t + I_t + Z_t$$

- (i) Write down the system in matrix form.
- (ii) Is the system identified? [1+9]

Or,

2. a. Identification is essential before estimation of a Simultaneous equation system (SES). Explain, why? [7]

b. Consider a simultaneous equation system (SES) consisting of 3 endogenous and 3 exogenous variables. Explain how you can use the generalized least square method to estimate that SES. [8]

3(a) Explain the concept of the following processes:

AR, MA, ARMA, ARIMA

(b) How do you test the statistical significance of the parameters of AR and MA Process? 8+7=15

[Turn over

2

Or,

4(a) Explain the idea of covariance stationary Process.

(b) Distinguish between Trend Stationary Process(TSP) and Difference Stationary Process(DSP)

(c) How do you test whether a process belongs to TSP or DSP class?

4+4+7