

BACHELOR OF ARTS EXAMINATION, 2018

(1st Year, 2nd Semester)

ECONOMICS (HONOURS)

MATHEMATICAL ECONOMICS II

Time: Two Hours

Full Marks:30

Answer any three questions: 10X3

- 1) For a market model given as (all the variables have the usual meanings),
 $d_1 = -p_1 - 2p_2 + p_3 - 2$
 $s_1 = -5p_1 - 5p_2 + 3p_3 - 1$
 $d_2 = p_1 - 3p_2 + p_3 + 1$
 $s_2 = -5p_2 + p_3 + 7$
 $d_3 = 4p_1 - p_2 - p_3 - 2$
 $s_3 = p_1 - p_2 - 2p_3 + 2$
 find out the market clearing prices. 10
- 2) Find out the changes in equilibrium values of outputs for changes in their final demands from the following model (all the variables have the usual meanings)
 $0.2x_1 + 0.3x_2 + 0.5x_3 + d_1 = x_1$
 $0.1x_1 + 0.4x_2 + 0.2x_3 + d_2 = x_2$
 $0.3x_1 + 0.1x_2 + 0.6x_3 + d_3 = x_3$ 10
- 3) For a growth model given as (all the variables have the usual meanings),
 $Q = K^\alpha L^{(1-\alpha)}$
 find out the time path of $k (=K/L)$ and infer about its nature and stability. 10
- 4) For a multiplier-accelerator model given as (all the variables have the usual meanings),
 $Y_t = C_t + I_t + G_0$
 $C_t = \gamma Y_{t-1}$
 $I_t = \alpha(C_t - C_{t-1})$
 Find out the time path of income and infer about the nature and stability of income if
 i) $\gamma = 0.5$ and $\alpha = 1$,
 ii) $\gamma = 0.3$ and $\alpha = 0.2$ 6+2+2
- 5) For an unemployment- inflation interaction model given as (all the variables have the usual meanings),
 $\pi_t = \beta(\pi_{t-1} + \alpha u_t)$
 $u_t = \beta(u_{t-1} + \alpha \pi_t)$
 find out the time path of π and infer about its nature and stability. 10