

**MASTER OF ARTS EXAMINATION, 2022**

( 1std Year, 2nd Semester )

**ECONOMICS**

**MACROECONOMICS AII**

**COURSE : PG CORE 3 : ECO B/C/2.1**

Time : Two hours

Full Marks : 30

**Answer any three questions.**

**Full marks 10\*3=30**

1. Consider standard Ramsey model with the following utility function  $U=$  and production function . Does the steady state equilibrium exist in this model? Is there any condition for which steady state equilibrium exist or does it always exist? Find out steady state equilibrium per capita growth rate of consumption and physical capital. Also find steady state equilibrium per capita physical capital level and steady state equilibrium per capita consumption. Is the growth rate endogenous or exogenous? 4+3+3
2. Describe the basic Real Business Cycle Model. Show that in this model, the departure of log output from its normal path follow a 2nd order autoregressive process. Hence show that transitory technology disturbances yield short run output movements but does not have any long lasting impact. 3+4+3
3. Explain Dynamic Inefficiency in Solow model. Can it occur in Ramsey model? Critically explain. Discuss the condition under which dynamic inefficiency occurs in OLG model. What is the reason for having such inefficiency in OLG model? Can you suggest any policy to remove it? 4+2+2+2
4. Consider a standard two period overlapping generations model. There is no heterogeneity within generations. The objective of young agent wants to maximize its utility  $U(t)=$   
 $\gamma$  captures the persistence of habit. If someone is used to high consumption young age, old age consumption only above a fraction of it given her positive utility. denotes per capita consumption in youth and denotes per capita consumption at old age. There is no population growth; the rate of depreciation of capital is 1 i.e. capital depreciates 100% between periods. Savings of previous period forms the capital of next period. Households do not value leisure and devote 1 unit of time inelastically to the labour market. Intensive form of economy wide production function is given by

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Where  $y$  is the per capita output and  $k$  is the per capita physical capital. Factor markets are perfectly competitive. Agents work and earn  $w$  in the first period; consume a part of their wage earning and save the rest part of it. In the second period, they consume the saved amount (principal) and the rate of interest ( $r$ ) earned over it. Derive the dynamic equation of  $k$ . Draw the phase diagram. Does there exist any non-trivial ( $k^* \neq 0$ ) equilibrium? Under what condition there exist multiple equilibria? Does there exist any growth rate? What is the effect of  $\gamma$  on per capita growth rate? 4+2+4