# MACHAKOS UNIVERSITY

**University Examinations for 2021/2022 Academic Year**

**SCHOOL OF BUSINESS AND ECONOMICS**
**DEPARTMENT OF ECONOMICS**
**FOURTH YEAR ………… SEMESTER EXAMINATION FOR**

**BACHELOR OF ECONOMICS AND STATISTICS**

**BACHELOR (ECONOMICS AND FINANCE)**

**BACHELOR OF ECONOMICS**

**BACHELOR OF ARTS**

**EET 401: MACROECONOMIC THEORY IV**

**DATE:**                                                                                       **TIME:**

**INSTRUCTIONS:**
   **(i)**      **Answer question one (Compulsory) and any other two questions**
   **(ii)**     **Do not write on the question paper**
   **(iii)**    **Show your workings clearly**

**QUESTION ONE (COMPULSORY) (30 MARKS)**

a) Given the following intertemporal optimizing model of consumption patterns:

$$\max_{c_t} \quad \sum_0^T \frac{In \ c_t}{(1 + \delta)^t},$$

Subject to the constraint that

$$\sum_0^T \frac{c_t}{(1+r)^t} = \sum_0^T \frac{y_t}{(1+r)^t}.$$

Show that whether consumption rises, falls or remains constant over time depends on whether the market rate of return is larger or smaller than the individual's discount rate

(10 marks)

b) Analyse the effect of an expansionary fiscal policy under the static model according to the *'Fiscalist'*. (10 marks)

c) Suppose that you decided to start your own company after graduating from Machakos University. With reference to the Tobin's Marginal q theory of investment, clearly and concisely demonstrate and explain the conditions under which you will:
   i) Invest more in capital (5 marks)
   ii) Get rid of some capital investment (3 marks)
   iii) Neither invest nor get rid of capital investment (2 marks)

## QUESTION TWO (20 MARKS)

a) Consider a Solow economy that is on its balanced-growth-path. Assume for simplicity that there is no technological progress. Demonstrate what would happen to the balanced-growth-path values if:
   i) The government ordered mandatory two-child policy ceiling in the country (5 marks)
   ii) There is an increase in the savings rate (5 marks)

b) In reference to transactions demand for money theory where consumers are also investors, and withdraw cash only for spending and part of their income not withdrawn remains with the bankers or brokers in form of bonds. Assume a representative consumer with $y$ as real income which he intends to spend within period $T$. Let the number of transactions (bank withdrawals or with the broker) be $n$, the cost of each transaction is $\alpha$ and the interest rate on the bonds is $r$.

   Derive the expression for the optimal number of transactions and explain the relationship between $n$ and $r$, $T$, $y$ and $\alpha$. (10 marks)

## QUESTION THREE (20 MARKS)

a) Explain the rational expectations approach to consumption behaviour clearly showing its relevance in developing countries. (10 marks)

b) Using the four quadrant analyze the effect of an increase in money supply on income using the four diagram under the assumptions of fixed money supply and interest sensitive money supply. (10 marks)

## QUESTION FOUR (20 MARKS)

a) Using the regressive expectations model of liquidity preference, derive the individual's demand for money function (10 marks)

b) Derive the aggregate demand function in the static model (10 marks)

**QUESTION FIVE (20 MARKS)**

a)    Explain the stylized facts about consumption                                                    (8 marks)

b)    Tobin's model of portfolio balance explains why rational individual asset holders might

hold their portfolios distributed among several assets of differing riskiness and expected

return. Illustrate how the individual's decision to hold money is influenced by their attitude

towards risk.                                                                                                                  (12 marks)