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(University of Choice)

**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

MAIN EXAMINATION

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

THIRD YEAR SECOND SEMESTER EXAMINATIONS

**FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN ECONOMICS**

COURSE CODE: ECO 322

COURSE TITLE: ADVANCED MACROECONOMICS

DATE: Friday, 22-04-2022

TIME: 12:00-14:00

INSTRUCTIONS TO CANDIDATES

ATTEMPT QUESTION ONE AND ANY OTHER TWO

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 3 Printed Pages. Please Turn Over.

QUESTION ONE (COMPULSORY)

a) With reference to the four sector economy, explain the circular flow of income and expenditure. Show the direction of money and products. [4 marks]

b) Suppose that a closed economy with an economically active government has the specification $Y = C + I + G_0$, $C = c_0 + c(Y^d, r)$, $Y^d = Y - T$, $I = I_0 + I(Y, r)$, $T = T_0 + T(Y)$ where Y-income, C-consumption, G-government expenditure, Y^d -disposable income, T-tax, r-interest rate. Examine the effect of taxation on equilibrium income. [7 marks]

c) Let the following variables represent the structure of a small theoretical open economy with perfect capital mobility and flexible exchange rates

Consumption(C) $C = 80 + 0.6Y^d$, Government expenditure (G) = 84

Autonomous tax(T) $T = 60$ Autonomous investment (I) = $70 - 10r$

Net Exports (NX)= $100 - 0.1Y$, Money demand (M/P) $d = 0.2Y - 4r$

Money Supply(MS) = 60

Required:

i) Assume that initially foreign and domestic interest rates be equal. Find the IS and LM equations [4 marks]

ii). Determine the equilibrium income (Y), interest rate (r) and net exports [5 marks]

iii) Suppose that the central bank thinks that income(Y) is too high and reduces the money supply from 60 to 56 in order to reduce GDP. Find the ne equilibrium values of (Y), (r) and NX) [5 marks]

iv) After the central bank's intervention of (C), the government thinks that as a result of the intervention NX is too low. In order to increase NX, the government reduces spending by 10. Find the ne equilibrium values of (Y), (r) and NX) after the reduction in G

[5 marks]

QUESTION TWO

b) Assume an economy has the following models with figures measured in billions of shillings

$$C = 50 + 0.8Y_d$$

$$T = 0.25Y$$

$$M = 5 + 0.1Y$$

$$I_0 = 100$$

$$G_0 = 50$$

$$X_0 = 10$$

$$TR_0 = 25$$

- i) Find the national income at equilibrium, consumption at equilibrium, imports and taxes at equilibrium [7 marks]
- ii) Find the imports multiplier [3 marks]
- iii) How much additional government expenditure will be required to increase equilibrium income by 50 billion shillings? [3 marks]
- iv) At equilibrium, does the economy have a trade deficit or trade surplus and by how [3 marks]

QUESTION THREE

- a) What is meant by the downward rigidity of money wage rate? Explain why money wages are supposed to be rigid downward and not upward [6 marks]
- d) The commodity and money market for an economy is defined by the following equations;

Commodity market

$$C = 500 + \frac{2}{10}Y, \quad I = 1200 - 6r$$

Money Market

$$M_T = \frac{1}{2}Y, M_{SP} = 95 - 10r, MS = 3000$$

i) Derive the IS and LM functions of the economy [4 marks]

ii) Calculate the equilibrium and interest rate for the economy [4 marks]

e) Discuss the dynamics of unemployment and inflation and the long-run Philips curve. [6 marks]

QUESTION FOUR

a) Given the following information calculate equilibrium level of national income

[5 marks]

$$Y = 100 + b(Y - T - t\bar{Y} + \bar{G}_t)$$

$$I = 200 \quad G = 100$$

$$\bar{T} = 100 \quad \bar{G}_t = 50$$

$$X = 20 \quad M = 10 + 0.1Y$$

$$b = 0.8 \quad t = 0.25$$

b) Given the data below for product and money market;

$$C = 100 + 0.75(Y - T)$$

$$I = 200 - 2000i$$

$$G = 100$$

$$T = 0.2Y$$

$$M_t = 0.5Y$$

$$M_{sp} = 100 - 2500i$$

$$M_s = 200$$

Calculate;

- i. Interest rate [5marks]
 - ii. Equilibrium level of income [5marks]
- c) Using graphical approach, derive the product market equilibrium schedule (IS) and the money market equilibrium schedule (LM) in an economy with taxes as a function of income [5marks]

QUESTION FIVE

- a). Discuss the desired features of a National Accounting system [10 marks] b). The Keynesian macroeconomic system specifies an investment function as $I = I_0 + I(Y, r)$ where I-investment, Y-income, r-interest, I_0 - autonomous investment. Examine the assumptions of the model and explain why the sensitivity of investment to income and interest rate is positive and non-positive respectively. [10 marks]

