# UGANDA MARTYRS UNIVERSITY

## END OF MODULE EXAMINATION

## FACULTY OF BUSINESS ADMINISTRATION AND MANAGEMENT

## MASTER OF SCIENCE- DEVELOPMENT ECONOMICS

## ACADEMIC YEAR 2023/2024

## MDE 5203: ADVANCED MACRO ECONOMICS

## EXAMINATION

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**DATE: 3rd February, 2024** **Time: 9:00 AM**

**DURATION: 3 HOURS**

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**INSTRUCTIONS:**

Attempt any **four** questions

Use relevant illustrations and examples

Disclaimer: Students not cleared by the finance office are liable to not receiving examination marks.

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## Question one

(a) What is meant by 'monetary policy'? Assuming you are the governor, Bank of Uganda and you are faced with a scenario in which the economy is experiencing high levels of inflation due to excessive money supply. Explain how you would apply the monetary policy to overcome the above phenomena. **(12marks)**

(b) What is meant by public debt management? Assuming you are the officer in charge of external public debt management in the Ministry of Planning, Finance and Economic development, explain the various methods you would employ to regulate the external public debt. **(13marks)**

## Question two

Given that an economy is characterized by induced consumption, taxes and imports, while transfer payments, government expenditure, investments and imports are exogenously determined.

a) Derive and explain equilibrium national income. **(7 marks)**

b) Given the macroeconomic model below;

$C = 300 + 0.6\ Y_d$, $T = 300 + 0.25Y$, $TR = 100$, $G = 400$, $X = 500$ and $M = 100 + 0.1Y$

Find the;

(i) Equilibrium level of output **(5 marks)**,

(ii) Level of autonomous spending **(3 marks)**

iii) Level of government budget position. **(3 marks)**

iv) Suppose the government increases its expenditure by 200 and reduces the marginal propensity to tax by 0.05, find the new level of government budget position. **(7 marks)**

## Question three

(a) The functioning of the product and money markets is interlinked and interdependent. Explain this statement. **(7 marks)**

(b) Assuming that the economy is initially in equilibrium under the ***IS – LM*** framework. Using graphical exposition, discuss the likely impact if the central bank undertakes an expansionary monetary policy. **(5 marks)**

(c) The economy is characterized by the following macroeconomic models

***Product market***

$C = 15 + 0.5Y$, $I = 200 - 2000R$

*Money market*

Transaction demand for money, $M_t = 0.4Y$, Speculative demand for money, $M_{sp} = 110 - 1500R$ and Money supply, $M_s = 150$

Determine

(i) The equations for the IS and LM curve equations. **(4 marks)**

(ii) The equilibrium values of Y and R. **(4 marks)**

(iii) Suppose there is an increase in money supply by 50, obtain the new LM curve equation and use it to determine the new equilibrium level of income. **(5 marks)**

## Question four

Country **A** and country **B** are defined by the Solow growth model and both have the same production function **Y = F(K, L) =** $K^{\frac{2}{3}}L^{\frac{1}{3}}$

(a) Obtain the per-worker production function y = f(k) **(2marks)**

(b) Assume that neither country experiences population growth and that 5 percent of capital depreciates each year. Assume further that country **A** saves 10 percent of output each year and country **B** saves 20 percent of output each year. Find the steady state level of capital per worker for each country. Then find the steady state levels of income per worker and consumption per worker in each country. **(13 Marks)**

(c) Now suppose that country **A's** population grows at a rate of 8 percent per year and that of country **B** grows at 5 percent. Find the steady state levels of capital per worker, income per worker and consumption per worker in each country. The savings and depreciation rates in each country are as given in part (b) above. **(10*marks*)**

## Question five

**(a)** Macroeconomics is said to have emerged from different macroeconomic schools of thought. Basing your analysis on this statement, discuss the views and policy recommendations of the classical economists and the Keynesian economists **(8 Marks)**

**(b)** As a macroeconomic policy analyst, explain why some national income statistics like GDP or PCY may not be better indicators of general welfare. **(10 Marks)**

**(c)** Explain the following concepts and state their policy implications in an economy.

i) Multiplier **(3 Marks)**

ii) Laffer curve

**(4 Marks)**

## Question six

**(a)** In the Solow growth model, why might the policy maker choose the Golden rule level of capital? **(2 marks)**

(b) Consider an economy described by the production function $Y = K^{0.3}L^{0.7}$ where K = capital and L= Labor. Assume that the economy neither experiences population growth nor technological progress and that $\delta$ percent of capital depreciates each year. Assume further that the economy saves $\lambda$ percent of the output each year and the growth of the economy depends on the long run Solow growth model

(i) What is the per worker production function. ***(2marks)***

(ii) Find the steady state capital stock per worker, output per worker and consumption per worker as simplified functions of savings rate and depreciation rate. ***(10marks)***

(iii) Hence determine the level of steady state capital stock per worker, output per worker and consumption per worker savings rate is $20\%$ and depreciation rate is $10\%$ . **(6marks)**

(c) By using the graph, discuss the effects of an increase in savings on the steady state output per worker and capital per worker basing on the Solow growth model. ***(5marks)***

***END***

$0.3/0.7$