

**UNIVERSITY OF SWAZILAND
FACULTY OF SOCIAL SCIENCE
DEPARTMENT OF ECONOMICS
MAIN EXAMINATION MAY 2016**

TITLE OF PAPER: INTERMEDIATE MACROECONOMIC THEORY

COURSE CODE: ECON 304

TIME ALLOWED: THREE (3) HOURS

INSTRUCTIONS: 1. ANSWER FOUR (4) QUESTIONS:

**QUESTION ONE (1) IS COMPULSORY AND
YOU CAN THEN CHOOSE ANY THREE (3)
QUESTIONS FROM THE REMAINING
QUESTIONS PROVIDED.**

2. ALL QUESTIONS CARRY 25 MARKS EACH

**THIS PAPER IS NOT SUPPOSED TO BE OPENED UNTIL PERMISSION
HAS BEEN GRANTED BY THE INVIGILATOR.**

Question 1 (Compulsory)

a.) Assume that Swaziland's economy is described by the following production function:

$$Y = F(K, L) = K^{1/2}L^{1/2}$$

- i.) What is the meaning of this production function? (2)
 - ii.) Derive the per-worker production function. (3)
- b.) State what countercyclical policy is and give its three main benefits. (5)
- c.) Define the following terms:
- iii.) Steady state (3)
 - iv.) Ricardian Equivalence Theorem (3)
 - v.) Intertemporal budget constraint (3)
 - vi.) Automatic stabilizers (3)
 - vii.) Financial markets (3)

Answer any three (3) from the following questions:

Question 2

Suppose the economy of Mozambique's national income accounts identity is given as:

$$y = c + i$$

- a.) With an aid of a diagram, solve for the condition that describes the Golden Rule. (10)
- b.) Consider the decision policymakers in Mozambique face when choosing a steady-state that maximizes consumption per worker. Suppose output per worker is governed by the following production function $y = k^{1/2}$
Also suppose that depreciation is 10% of capital. The policymakers must choose a savings rate s to accomplish their goal. Further suppose the policymakers must choose between the following savings rates: 0.2, 0.5, and 0.8. Which of the three savings rates maximizes consumption? (15)

Question 3

The real revenue generated from money creation is called seignorage. The term is derived from the consideration that ancient seigneurs could buy the goods they wanted by just issuing their own money and use it to pay for the goods. Consider M being the nominal money stock, ΔM the change in the amount of money (i.e. the new money issued), P the price level. Seignorage = $\Delta M/P$ which is the real value of the new money supplied.

Suppose that money (liquidity) demand takes the form:

$$M/P = Y [1 - (r + \pi^e)]$$

Where $Y = 1000$ and $r = 0.1$.

a.) Assume that in the short run $\pi^e = 25\%$. Calculate the rate of seignorage for each rate of money growth $\Delta M/M$. (12)

i) 25%

ii) 50%

iii) 75%

NB: the formula for seignorage can be expressed in terms of money growth

b.) Discuss the importance of seignorage to the government. (5)

c.) "The E200 million three-year bond offered by the Central Bank of Swaziland (CBS) on behalf of the government was under-subscribed".

i.) State what a bond is and give the implication of this statement? (5)

ii.) Apart from issuing bonds, discuss three other means through which the Swaziland government can finance its deficit. (3)

Question 4

a.) Financial markets are important for the macro-economy. Ignoring them is a dangerous mistake, as the lead-up to the global financial crisis and the great recession has made us painfully aware. What are the conditions needed for a financial market to be efficient? Are they likely to be met in practice? (10)

b.) Discuss three channels through which asset markets play a crucial role in transmitting monetary policy actions to the economy. (15)

Question 5

The Two-period Model of the economy focuses on consumption today and tomorrow. The consumer's objective is to maximize lifetime utility. Suppose that this household lives for two periods and receives income Y_1 in the current period, Y_2 in the future and pays t_1 and t_2 in taxes respectively.

a.) Derive the household's lifetime budget constraint and state its significance. (10)

b.) Re-arrange the lifetime budget constraint and graph the resultant simple linear relation. (5)

c.) 'The national debt is a great scam because it will never be repaid.' 'The national debt is irrelevant because we owe it to ourselves.' Discuss these two popular characterizations of government indebtedness. (10)