DEDAN KIMATHI UNIVERSITY OF TECHNOLOGY
UNIVERSITY EXAMINATION ACADEMIC YEAR 2014/2015
FIRST YEAR EXAMINATION FOR THE DEGREE OF MASTERS OF SCIENCE IN ECONOMICS

BEC 4105: ADVANCED MACROECONOMIC THEORY II

APRIL 2015 **TIME: 3 HOURS**

Instructions:

Answer QUESTION ONE and any other THREE questions.
All questions carry equal marks.

QUESTION ONE (20 MARKS)

a) Given the following budget constraint:

$$B_t = B_{t-1} + rB_{t-1} + G_t - T_t - S_t$$

Where B_t is the level of government debt at the end of time t. The stock of the debt at the end of time t is equal to the stock of debt that we start with at time t, that is B_{t-1}, plus the interest rate on outstanding debt rB_{t-1} plus government expenditure at time t G_t minus taxes T_t and possible seigniorage revenues S_t.

Required:

Demonstrate the evolution of the debt-GDP ratio over time and interpret your results **(10 marks)**.

b) Briefly describe the concept of Ricardian Equivalence and explain why it may not be applicable in the real world **(10 marks).**

QUESTION TWO (20 MARKS):

1) Consider this hypothetical case that relate to the Kenyan economy. The social welfare function that Kenya faces is quadratic in both output and inflation. The parameter α reflects the relative importance of output and inflation in the social welfare function.

$$L = \frac{1}{2}(y_t - y^*)^2 + \frac{1}{2}\alpha(\pi_t - \pi^*)^2 \qquad y^* \succ \bar{y}, \alpha \succ 0$$

Subject to the Phillips curve:

$$y_t = \bar{y} + \beta(\pi_t - \pi_t^e) \qquad \beta \succ 0$$

Where y_t the log of output is, $\bar{y}$ is the natural rate/potential output and π^* is the inflation target.

a) Suppose the government announces π_t before t and binds itself to stick to it. What can you say about its optimal π_t? What do you think will be actually π_t, y_t?

b) Suppose now, that it cannot bind itself. What do you think will happen then?

QUESTION THREE (20 MARKS):

a) Use the Mundell-Fleming model (assume a small economy with perfect capital mobility) under the flexible exchange rate to analyze:

i. The effects contractionary fiscal policy **(5 marks)**

ii. The effects of expansionary monetary **(5 marks)**

b) Describe the concept of impossibility trinity in relation to free capital flows, independent monetary policy, and a fixed exchange rate **(7 marks)**

c) Briefly explain the concept of sterilization **(3 marks)**

QUESTION FOUR (20 MARKS)

a) Given the following trade balance expression:

$$CA = p_x X(e) - ep_m M(e)$$

Required:

i. **State, derive and interpret** the Marshall-Lerner condition **(7 marks)**

ii. Is it possible that depreciation leads to an improvement of trade balance expressed in foreign currency and at the same time worsen trade balance expressed in a domestic currency? **(3 marks)**

b) In the literature, Dornbusch's model is referred to as an exchange rate "overshooting" model.

i. Why is it referred to in this way? **(2 marks)**

ii. What is the behavioral logic that underpins the model and its predictions? **(8 marks)**

QUESTION FIVE (20 MARKS)

a) Most of the inflationary pressures experienced in developing countries such as Kenya is not a monetary phenomenon. Explain **(10 marks).**

b) Discuss the global financial crisis of 2007-2009 under the following:

i. Causes **(5 marks)**

ii. Effects **(5 marks)**