KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2017/2018
FIRST SEMESTER EXAMINATION FOR THE DEGREE OF DOCTOR OF PHILOSOPHY IN ECONOMICS

EET 903: MACROECONOMICS II

DATE: Friday, 9th February, 2018 TIME: 9.00 a.m. - 12.00 p.m.

INSTRUCTIONS: Answer **ALL** questions.

QUESTION ONE

The impulse response functions in Figure 1 pertain to a New Keynesian model that has been log-linearized around the steady-state. The model makes use of the Taylor Rule, $i_t = \rho i_{t-1} + (1-\rho)(\phi^{\pi}\pi_t + \phi^{y} y_t) + \varepsilon_t$, to describe the way in which monetary policy is conducted; where i_t, π_t and y_t represent the nominal interest rate, inflation and the output gap respectively.

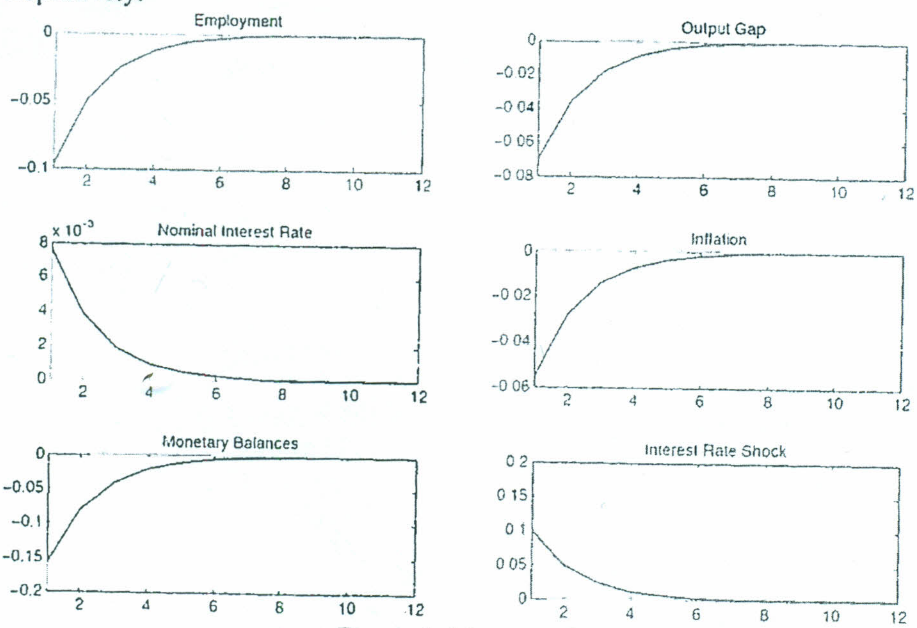

Figure 1: Monetary Policy Shock

Using the above information, describe the dynamic effects of an increase in the nominal interest rate, following a shock to the error process, ε_t, which is presented in Figure 1.

[15 Marks]

QUESTION TWO

(a) Given the following optimization problem:

$$\max V_t = \sum_{s=0}^{\infty} \beta^s U(c_{t+s})$$

With respect to $c_{t+s}, k_{t+s}, f_{t+s}$ subject to the budget constraint, the capital accumulation equation, and the production function.

Required

(i) Obtain the Euler equation **[2 Marks]**

(ii) Interpret the solution with world interest rate replacing the domestic interest rate. **[3 Marks]**

(iii) Present the intertemporal solution for the open economy graphically and explain the results. **[5 Marks]**

(b) Explain the thick- market effects using the matching function. **[2 Marks]**

(c) Derive the vacancy- filling rate. **[3 Marks]**

QUESTION THREE

(a) Using the Fisher Equation, show the determinants of inflation. **[2 Marks]**

(b) The current account is the consolidation of the accounts of the private and public sectors. Show the condition for Twin deficits. **[7 Marks]**

(c) Given the following equation:

$$R_t = \theta + \pi^* + \mu(\pi_t + \pi^*) + \upsilon x_t + e_{rt}$$

Obtain the solutions for inflation and output. **[6 Marks]**

QUESTION FOUR

(a) Show the effect on capital of an increase in taxes. **[2 Marks]**

(b) Using the OLG Model, show that for fiscal policy, people born in a later period have no control over decisions taken in the earlier period. [2 Marks]

(c) Show the effect on consumption of a temporary or a permanent change in real interest rates in the New Keynesian Model of inflation. [3 Marks]

(d) The balance of payments is written in normal terms as:

$$CA_t = P_t^T x_t - S_t P_t^{T\bullet} x_t^m + R_t^\bullet S_t B_t^\bullet - R_t B_t^F = S_t \Delta B_{t+1}^\bullet - \Delta B_{t+1}^F$$

CA is defined as the current account, x_t is exports, x_t^m is imports, $B_t^\bullet$ is the domestic nominal holding of foreign assets expressed in foreign currency, B_t^F is the foreign holding of domestic assets expressed in domestic currency, P_t^T is the price of exports.

Show the condition for balance of payments sustainability. [8 Marks]