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FACULTY OF THE SOCIAL SCIENCES
DEPARTMENT OF ECONOMICS

SECOND SEMESTER EXAMINATION, 2017/2018 SESSION

COURSE CODE/ TITLE: ECO 402/ ADVANCED MACROECONOMICS **TIME: 2½ HOURS**

INSTRUCTION: Attempt All Questions in Section A and Two (2) Questions in Section B (Question 3 and any Other One (1)).

SECTION A: Attempt All Questions

* **Question 1:** Answer True, False or Ambiguous. Support your choice with reason(s) including equation(s) or graph or both.

- i. The slope of IS increases when investment spending becomes less interest-sensitive.
- ii. The output effect for a change in the money supply is large when investment is sensitive to the rate of interest and the demand for money is interest-insensitive.
- iii. Fiscal policy has no effect upon output in a flexible exchange rate environment. *False, currency changes and interest rates*
- iv. When there is a neoclassical aggregate supply schedule, a 10% increase in the price level results in a 10% increase in the nominal wage.
- v. When labour demands a higher nominal wage, *ceteris paribus*, output decreases and the price level increases. *True, work with the same effort*
- vi. The relative income hypothesis posits that in depression, the households consume higher proportion of their income than they do in times of prosperity, such that their A.P.C. falls. *False, APC rises and falls*
- vii. The equation $C = N25m + 0.70Y_d$ predicts that autonomous consumption is N25m while marginal propensity to save is 0.3Y_d. *False*
- viii. It is the flexible accelerator theory that says that investments requirement depends strictly not on output produced but the change in the desired stock of capital which takes place as a result of production. *False, investment depends on capital stock*
- ix. According to James Duesenberry, permanent income consists of two parts namely transitory income and normal income. *False*
- x. The real GDP of Nigeria is N8 billion, if the current price rose from base year price of N4 per unit in the base year to N4.50 per unit in the current year and the output rose from one billion units to two billion units within the same period. *False*

15 marks

* **Question 2:** You are a Special Assistant to the Minister for Planning and Economic Development. The Nigerian Economic Students Association, OOU Branch invites you to participate and present a paper in a Symposium at its forthcoming Annual Week. The paper is entitled "The causes of balance of payment disequilibrium in Nigeria and the measures for correcting the disequilibrium". Prepare your paper for the symposium. **15 marks**

SECTION B: Attempt Question 3 and Any Other One (1) Question

Question 3: a. Given that $C = \bar{C} + cY_d$, $I = \bar{I} - bi$, $T_x = \bar{T}_x$ and $G = \bar{G}$. The demand for money is specified as $L = kY - hi$, and the money supply is \bar{M} .

- i. Find an equation for equilibrium in the good market.

Handwritten notes:
 $C = \bar{C} + cY_d$
 $I = \bar{I} - bi$
 $T_x = \bar{T}_x$
 $G = \bar{G}$
 $L = kY - hi$
 $M = \bar{M}$

- ii. Find an equation for equilibrium in the money market.
 iii. Find an equation that represents equilibrium output in the money and good markets.
 b. The simultaneous equilibrium in the money and goods markets is given by the equation:

$$y = \frac{hk_e}{h + kbk_e} (\bar{A}) + \frac{bk_e}{h + kbk_e} \left(\frac{\bar{M}}{P} \right)$$

- i. Find an expression which relates the change in output to a change in the price level.
 ii. What does the equation in (i) represent?
 iii. Find the slope of aggregate demand.
 c. i. Find output Y , saving S , gross investment I , and depreciation investment D when the production function is $Y = AK^{0.5}L^{0.5}$, $A = 2.00$, $K = 16$, $L = 4$, the saving rate $s = 0.30$, and the depreciation rate d is 0.10 .
 ii. Is there net investment in this economy?
 iii. Find output per worker, saving per worker, gross investment per worker, depreciation investment per worker, and capital per worker.
 iv. Establish whether the economy has reached a steady state.

20 marks

Question 4: Write short note on the followings:

- a. The golden rule steady state
 b. Determinants of Unemployment
 c. A Diamond-Mortensen-Pissarides Model of Search and Unemployment
 d. The Friedman-Lucas Money Surprise Model and the Phillips Curve
 e. Autonomous Balance of Payment items.

20 marks

Question 5: a. Present a complete multiplier model for the Keynesian Income-Expenditure Model, excluding taxes related to income.

- b. Write short note to distinguish between the IS and LM curves.
 c. What are the factors responsible for the negative slope of aggregate demand?
 d. Why does an income tax reduce the value of the multipliers? Why an income tax is considered a "built-in" stabilizer?

20 marks

Question 6: a. Holding other factors constant, explain the effect that the following variables might have on saving during the employment years: retirement age, life expectancy, age at entry into labour force, inherited asset endowment, and interest earned on financial assets. Assume that consumption is based on lifetime income and is uniform throughout one's lifetime.

- b. Why might an individual bequest accumulated wealth to heirs and not consume it in its entirety during retirement?
 c. How can liquidity constraints restrict consumption?

20 marks

GOOD LUCK!

$y = A(K, L)$
 $F(K) = A(K, \frac{L}{K})$
 $F'(K) = A'(K, \frac{L}{K})$
 $F''(K) = A''(K, \frac{L}{K})$
 $\frac{\partial y}{\partial K} = s f'(k) - nk$
 $\frac{\partial y}{\partial L} = s f''(k) \frac{L}{K} - n \frac{L}{K}$
 $0 = s \cdot A' \left(\frac{K}{K+1} \right) - n \frac{K}{K+1}$
 $0 = s \frac{A'}{K+1} - n$
 $K = \frac{s}{n} - 1A$
 $K = 0.30$

$\frac{\partial y}{\partial K} = \frac{s}{K+1}$
 $\frac{\partial y}{\partial L} = \frac{s}{K+1}$

$0 = \frac{0.30}{0.10} - 1 = 3$
 $0 = \frac{0.30}{0.10} - 1 = 3$

$K = 3$
 $3 = \frac{0.30}{0.10} - 1$