國立中山大學102學年度碩士暨碩士專班招生考試試題

科目名稱：總體經濟學【經濟所碩士班】　　題號：403003

※本科目依簡章規定「不可以」使用計算機　　

Please answer the following questions on answer sheets

A. Consider the following model (30%)

Lucas supply curve:

$$\Delta y_t = a \times (p_t - p_t^e) + \varepsilon_{1,t} \quad (1)$$

Aggregate demand curve:

$$\Delta y_t = b \times (m_t - p_t) + \varepsilon_{2,t} \quad (2)$$

Monetary rule:

$$m_t = \bar{m} + \varepsilon_{m,t} \quad (3)$$

where, y, p and m are output, price level and money supply. $p_t^e = E(p_t \mid I_{t-1})$ in which $E(.|.)$ is the conditional expectation operator and I_{t-1} is the information set at time t-1. $\Delta y_t = y_t - y_{t-1}$. a and b are parameters, and $\bar{m}$ is the mean of m_t. $\varepsilon_{1,t}$, $\varepsilon_{2,t}$ and $\varepsilon_{m,t}$ are disturbances which are identically and independently distributed.

(1) Please derive the effect of an expected monetary increase on price level and output. (10%).
(2) Please derive the effect of an unexpected monetary increase on price level and output. (10%).
(3) What is the policy ineffectiveness argument? Does the above model support the policy ineffectiveness argument? (10%).

B. Solow Growth model: (40%)

$Y=C+I$,

$Y=F(L, K)$, $F_L > 0 > F_{LL}$, $F_K > 0 > F_{KK}$, $\lim_{K\to\infty} F_K = \lim_{L\to\infty} F_L = 0$, $\lim_{L\to\infty} F_L = \lim_{K\to\infty} F_K = 0$,

F is a constant return to scale production function.

$\dot{K} = I - \delta K$,

$S=aY$,

$\dot{L} = nL$,

where, F_j, j=K,L is the partial derivative of F with respect to j and F_{jj} is the partial derivative of F_j with respect to j. Y, K, L, I and S are output, capital, labor, investment and saving, respectively. F(.), a, n and δ are the production function, the saving rate, the labor growth rate and the depreciation rate, respectively.

(1) Please derive the condition for determining the steady state capital stock (10%)
(2) Given that the production function is Cob-Douglas ($AK^{\alpha}L^{1-\alpha}$), please solve for the steady state capital stock (5%).
(3) Please derive the condition for determining the golden rule capital stock (10%)
(4) Given that the production function is Cob-Douglas ($AK^{\alpha}L^{1-\alpha}$), please solve for the golden rule capita stock (5%)
(5) What is the dynamic inefficiency? Does the Solow model appear dynamic inefficiency? Why? (10%)

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C. Please explain the following (30%)

1. permanent income hypothesis (6%)
2. Lucas critique (6%)
3. long-run Phillips curve (6%)
4. uncovered interest parity (6%)
5. open market operation (6%)