

注意：可使用計算機

1. (40%) Following are True/False questions. If the statement is true, please mark "O" on the sheet; if not, please mark "X" and correct it.

- (1) A country's GDP is always less than GNP in that country.
- (2) When an economy is under full employment, the unemployment rate is zero.
- (3) The Laffer curve implies that higher tax rate does not necessarily produce higher taxes for the government.
- (4) The equation:  $\ln(M^d) = 3.1 + 1.04\ln(Y) - 0.04(I)$  is more closer to the liquidity trap situation than the equation:  $\ln(M^d) = 4.5 + 1.09\ln(Y) - 0.27(I)$
- (5) The labor supply curve will move to the left if people expect the price level to increase.
- (6) Money is not neutral in the IS-LM Keynesian model.
- (7) If the demand function is  $Q = aP^{-1}$  where  $a$  is a constant, then the value of demand elasticity is less than 0.5.
- (8) If the price elasticity of supply is zero, the supply curve is a horizontal line parallel to the quantity axis.
- (9) A monopolist can apply the price discrimination policy for increasing profit.
- (10) Moral hazard occurs after an agreement or contract has been made.

2. (20%) Interpret Liquidity Trap and Investment Trap by words and graphs. Do the monetary and fiscal policies work under each of two situations?

3. (25%) The following function of prices and utility is proposed as an expenditure function for some consumer:

$$E(P_1, P_2, u) = [u(P_1P_2 + P_2^2)]^{\frac{1}{2}}$$

- (1) Verify that the function defined above satisfies all the conditions of being an expenditure function.
- (2) Derive the Hicksian demand system via Shephard's Lemma.

4. (15%) Consider the following cost minimization hypothesis with  $x_i$ 's and  $w_i$ 's being production inputs and their prices respectively:

$$\begin{cases} \text{minimize } w_1x_1 + w_2x_2 = C \\ \text{subject to } \alpha_1x_1^\rho + \alpha_2x_2^\rho = y^\rho \end{cases} \quad \text{where } \alpha_1 + \alpha_2 = 1$$

Please find the input demands and the cost function.

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