個體經濟學 (48%)

I. 單選題 (每題四分)

1. If an individual's Engel curve for a good is negatively sloped, then the good is
   (a) an Engel good.
   (b) a Giffen good.
   (c) an inferior good.
   (d) a normal good.

2. If isoquants are smooth and convex, then a necessary condition for cost minimization is that the
   (a) MRTS equals the slope of the isoquant.
   (b) MP per dollar of an input equals the MP per dollar of all other inputs.
   (c) price of the final good is equal to the MC of production.
   (d) isoquant intersects isocost at the cost-minimizing bundle.

3. Which of the following production functions indicates that z_1 and z_2 are perfect complements?
   (a) $y(z_1, z_2) = z_1 + z_2$.
   (b) $y(z_1, z_2) = z_1 \times z_2$
   (c) $y(z_1, z_2) = \max(z_1, z_2)$
   (d) $y(z_1, z_2) = \min(z_1, z_2)$

4. A firm owns two plants that produce the same good. The marginal cost functions for the two plants are: $SMC_1 = 4y_1$ and $SMC_2 = 6y_2$, where y_1 and y_2 are quantities of output produced in each plant. If the market price is $60 per unit and the firm wants produce 50 units of output at minimum cost, how much should it produce in each plant?
   (a) (40,10)
   (b) (30,20)
   (c) (20,30)
   (d) (10,40)

5. Assume X and Y are the only two goods a person consumes. If after a rise in P_x the quantity demanded of Y increases, one could say
   (a) the substitution effect dominates the income effect for Y.
   (b) the income effect dominates the substitution effect for Y.
   (c) X is an inferior good and Y is a normal good.
   (d) None of the above.

6. Suppose the production function for good q is given by $q = \sqrt{KL}$ where K and L are capital and labor inputs. Consider three statements about this function:
   I. The function exhibits constant returns to scale.
   II. The function exhibits diminishing marginal productivities to all inputs.
   III. The function has a constant rate of technical substitution.
   Which of these statements is true?
   (a) All of them
   (b) I and II
   (c) I and III
   (d) II and III

7. A price discriminating monopolist having identical costs in two markets should charge a higher price in that market
   (a) which has a higher demand.
   (b) which has a more elastic demand.
   (c) which has a less elastic demand.
   (d) which has a lower demand.

注意：背面有試題

8. Lisa's current wealth is W_0 and there is a probability of p that Lisa will incur a medical expense of L. Assuming that her utility function is given by U(W). Suppose that Lisa can buy medical insurance and the maximum amount she would be willing to pay is A. Then A must satisfy which of the following condition?
   (a) $U[pW_0 + (1 - p)(W_0 - L)] = U(W_0 - A)$
   (b) $pU(W_0) + (1 - p)U(W_0 - L) = U(W_0 - A)$
   (c) $pU(W_0 - A) + (1 - p)U(W_0 - L) = U(W_0)$
   (d) $pU(W_0) + (1 - p)U(W_0 - A) = U(W_0 - L)$

The following information is for questions 9 and 11:
Suppose duopolists A and B compete for a market in which demand is given by $P = 100 - q_A - q_B$. Assume that $MC_A = MC_B = 10$.

9. In a Nash (Cournot) equilibrium, which of the following is correct?
   (a) $q_A = q_B = 30$
   (b) $q_A = q_B = 45$
   (c) Profits are given by $\pi_A = \pi_B = 600$
   (d) None of the above

10. Now suppose that $MC_A = 10$, but MC_B may be either high ($MC_B = 16$) or low ($MC_B = 4$). Suppose also that A assign equal probabilities to each type. If B actually has high cost, q_A and q_B in a Nash equilibrium under such incomplete information will be
   (a) the same as the answer in question 9.
   (b) (45, 27)
   (c) (33, 27)
   (d) (30, 27)

11. Continue from question 10, if B actually has low cost, q_A and q_B in a Nash equilibrium under such incomplete information will be
   (a) the same as the answer in question 9.
   (b) (30, 33)
   (c) (27, 33)
   (d) (27, 30)

12. Suppose firm A and firm B each operate under conditions of constant average and marginal cost but that $MC_A = 20$ and $MC_B = 15$. The demand for the firms' output is given by $Q_D = 600 - 20P$. If the firms practice Bertrand competition, the profits for firm A and firm B will be approximately
   (a) 0, 1000
   (b) 800, 600
   (c) 600, 800
   (d) 200, 900

總體經濟學 (52%)
II. 單選題 (每題四分)
13. The following description about the "classical dichotomy" are correct, except for:
   (a) change in money supply does not influence real variables.
   (b) fully describe the world in both short run and long run.
   (c) simplify macroeconomic analysis.
   (d) money is "neutral".

14. Consider a small open economy with floating exchange system, the introduction of automatic teller machine leads to:
   (a) a rise in income but no change in net exports.
   (b) a rise in net exports but no change in income.
   (c) a rise in both income and net exports.
   (d) no change in both income and net exports.

15. Which of the following regarding stock market and Tobin's q is correct?
    (a) The stock market is independent to output and unemployment.
    (b) A fall in Tobin's q means that the investment is higher at any given interest rate.
    (c) A rising Tobin's q suggests that investors are optimistic about the current and future profit.
    (d) If the market values capital at less than its replacement cost, the firm's managers will replace capital as it wears out.

16. Which of the following is false?
    (a) There is no regular pattern between a nation's real exchange rate and its current account balance.
    (b) The nominal interest rates within two nations are equal if both relative purchasing power parity and interest rate parity hold.
    (c) An appreciation of a nation's currency occurs when the nation's inflation rate has been less than that in other countries.
    (d) The real exchange rate measures the cost of one country's products in terms of another country's product.

17. During recession, the real wage should
    (a) fall according to Keynesian model and rise according to Real Business Cycle model.
    (b) rise according to Keynesian model and stay constant according to Real Business Cycle model.
    (c) stay constant according to Keynesian model and fall according to Real Business Cycle model.
    (d) rise according to Keynesian model and fall according to Real Business Cycle model.

18. In a large open economy, what would happen if political instability abroad occurs?
    (real exchange rate=foreign goods/domestic goods)
    (a) net capital outflow higher; real interest rate higher.
    (b) net capital outflow lower; real interest rate lower.
    (c) net capital outflow unchanged; real exchange rate higher.
    (d) net capital outflow lower; real exchange rate higher.

19. According to Ricardian equivalence, a reduction in income tax withheld, but no change in income tax owed would make:
    (a) households save the extra take-home pay and those facing borrowing constraints spend the extra take-home pay.
    (b) households spend the extra take-home pay and those facing borrowing constraints save the extra take-home pay.
    (c) households save the extra take-home pay regardless of facing borrowing constraints.
    (d) households spend the extra take-home pay regardless of facing borrowing constraints.

III. 計算題 (每小題四分)

20. Assume the following information describe the structure of an economy:
    $C=C_a+0.8(Y-T)$　　　　　$(M/P)^d=0.1Y-33r$
    $C_a=500-16r$　　　　　　　$(M^s/P)=240$
    $T=500+0.25Y$
    $I_p=500-20r$
    $G=1200$
    (a) What is the level of saving at equilibrium?
    (b) What is the level of planned investment at equilibrium?
    (c) If r=3 and Y=4200, would there be an excess demand or excess supply of money and how much?

21. A country has the production function $Y=K^{0.4}L^{0.6}$. The economy has a population growth rate of 2% and depreciation rate of 3%. The capital-output ratio is 4, and there is no technology progress in the economy. Based on the Solow Growth model:
    (a) What is the marginal product of capital?
    (b) What is the saving rate if the economy is in steady state?
    (c) What is the saving rate to achieve the golden rule level of capital?