

國立高雄大學九十四學年度轉學招生考試試題

系所組別：應用經濟學系

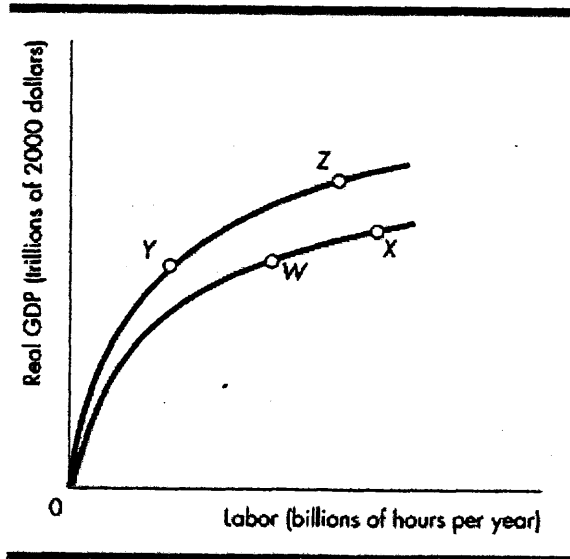
科目：經濟學原理

考試時間：90 分鐘

本科原始成績滿分 100 分

**Part I Multiple choice questions (Choose the best option, 2.5 points each)**

1. Wendy spends \$30 a week on movies and magazines. The price of a movie is \$8, the price of a magazine is \$2, and she sees 3 movies a week and buys 3 magazines. The price of a magazine now increases to \$4 and Wendy's brother gives her \$6 a week so that she can still see 3 movies a week and buy 3 magazines. In this situation, Wendy will see \_\_\_\_\_ movies and buy \_\_\_\_\_ magazines.
- A) more than 3; fewer than 3
  - B) less than 3; less than 3
  - C) 3; 3
  - D) less than 3; more than 3



2. The country of Potato Republic is on its production function at point *W* in the above figure. The government of Potato Republic passes a law that makes 4 years of college mandatory for all citizens. The economy will
- A) remain at point *W*.
  - B) move to point such as *Z*.

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- C) move to point such as  $Y$ .  
D) move to point such as  $X$ .
3. A forest fire destroys a large housing area. If the housing market is unregulated, then immediately after the fire, the price of housing \_\_\_\_\_. But after some time, the \_\_\_\_\_ housing starts to increase and the price starts to \_\_\_\_\_.
- A) decreases; demand for; rise  
B) increases; demand for; rise further  
C) decreases; supply of; rise further  
D) increases; supply of; fall
4. Sam consumes only sandwiches and soda and maximizes his total utility. Suppose that the price of a sandwich falls. At the new consumer equilibrium, Sam substitutes \_\_\_\_\_ for \_\_\_\_\_. Sam's marginal utility from soda \_\_\_\_\_ and his marginal utility per dollar spent on sandwiches \_\_\_\_\_.
- A) soda; sandwiches; stays the same; stays the same  
B) soda; sandwiches; decreases; increases  
C) sandwiches; soda; increases; decreases  
D) sandwiches; soda; increases; increases
5. If the average total cost of producing 40 sweaters an hour falls when the firm doubles all its inputs, then the
- A) firm experiences economies of scale.  
B) short-run average total cost curve shifts upward because all inputs have increased.  
C) long-run average cost curve shifts downward.  
D) firm moves along its short-run average total cost curve.
6. For an inferior good,
- A) a lower price has a substitution effect that increases the quantity demanded.  
B) the income effect is negative, so that an increase in income decreases the demand.  
C) a lower price may not always lead to an increase in the quantity demanded.  
D) All of the above answers are correct.

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7. If the market for roller blades is at a competitive equilibrium, and there are no external costs nor benefits and no price ceilings, price floors, taxes, or subsidies, then
  - A) marginal benefit is greater than marginal cost.
  - B) resources are being used efficiently.
  - C) the sum of consumer surplus and producer surplus is minimized.
  - D) All of the above answers are incorrect.
8. Which of the following is the least likely response of a competitive firm when facing a decrease in demand in the short run?
  - A) Decreasing the quantity produced.
  - B) Going out of business.
  - C) Laying off workers.
  - D) Shutting down the firm.
9. In response to a permanent increase in demand, which of the following statements about the new long term equilibrium in a competitive market is incorrect?
  - A) The sizes of the firms are larger than before.
  - B) There are more firms in the market than before.
  - C) The equilibrium price remains the same.
  - D) The equilibrium quantity is larger than before.
10. A monopoly without government intervention tend to be inefficient because
  - A) the cost of the production is too high on average.
  - B) there are too many consumers.
  - C) the producer relies on the business from the government.
  - D) the society as a whole can enjoy more benefit if the quantity produced is different.
11. Which of the following things does not concern the oligopoly producers when they make their decisions?
  - A) The image of the product.
  - B) The prices charged by the other firms for their products.
  - C) The quantities produced by the other firms.
  - D) The possible reactions of the other firms to own decisions.

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12. When a negative externality associated with the consumption is present in a market without any public intervention,
- A) the equilibrium quantity is less than the socially optimal quantity.
  - B) the social demand curve lies under the private demand curve.
  - C) the social supply curve lies above the private supply curve.
  - D) the government should grant subsidy to the producers.
13. In a monopolistically competitive market,
- A) products are exactly the same.
  - B) there is only one price.
  - C) the producers share the market equally.
  - D) some firms could make a profit but some may suffer losses at the same time.
14. Which of the following describes the situation in which a monopoly firm voluntarily produces at quantity preferred by the society?
- A) When the firm is subsidized appropriately by the government.
  - B) When the firm can perfectly discriminate in the selling price.
  - C) When the firm can export.
  - D) When the technology of production is improved.
15. The country of Banana has net exports of \$5 million. Government purchases of goods and services are \$15 million and the government has a budget surplus of \$5 million. Investment is \$5 million. National saving in Banana is \_\_\_\_\_.
- A) \$10 million
  - B) -\$5 million
  - C) \$5 million
  - D) \$15 million
16. In a demand-pull type of inflation,
- A) the economy goes through a recessionary cycle.
  - B) the economy will converge back to the original potential GDP.
  - C) the likely cause of the change in demand is an increase in net export.
  - D) the money wage rate remains hence the real wage rate decreases.

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17. The magnitude of the money multiplier does not depend on
- A) the discount rate.
  - B) the required reserve ratio.
  - C) the currency drain.
  - D) the monetary base.
18. A Keynesian feedback rule of monetary policy would suggest, given an oil price hike, that
- A) nothing should be done.
  - B) money supply should be increased if inflation control is the objective.
  - C) money supply should be increased regardless of the objective.
  - D) money supply should be increased if recession control is the objective.
19. Which of the following would lead GDP to *overstate* economic welfare?
- A) restaurant workers that under-report tip income
  - B) a self-employed CPA who takes a longer than normal vacation
  - C) the existence of home-cooked meals
  - D) electric utilities that switch to burning coal because of higher natural gas prices and thereby create more acid rain pollution
20. Heidi quits her job as a chef making \$30,000 per year to start her own restaurant. The first year, Heidi's restaurant earned \$90,000 in revenue. Heidi pays \$50,000 per year in wages to the waitresses and hostess, \$20,000 per year to buy food, etc. What is Heidi's economic profit for the year?
- A) \$30,000
  - B) -\$10,000
  - C) \$50,000
  - D) \$80,000

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### Part II Essay Questions (total 50 points)

1. The following (incomplete) chart illustrates the cost schedule of Lily's Crispy Chicken (in NT dollars).
- a. Complete the chart by giving cells A to F the actual numbers. (6 points)

Output	Total Cost	Marginal Cost	Average Cost	Average Variable Cost
1	130	30	130	30
2	155	( B=? )	77.5	27.5
3	170	15	56.7	23.3
4	188	18	( C=? )	( E=? )
5	211	23	42.2	22.2
6	241	30	40.2	23.5
7	( A=? )	39	( D=? )	25.7
8	330	50	41.25	( F=? )
9	393	63	43.7	32.6
10	471	78	47.1	37.1

- b. If Lily's Crispy Chicken is a firm in a perfectly competitive market, what is the quantity produced and the profit (or loss) when the market price is 50 NT? What is its shut-down point? (4 points)
- c. If Lily's Crispy Chicken is a monopoly firm, what is the quantity produced and the price charged given that the market demand is: Quantity demanded =  $12.3 - \text{Price}/10$ ? (4 points)

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2.
  - a. Generally speaking, inflation can be caused by the change in aggregate demand (demand pull) or in aggregate supply (cost push). Briefly describe the process of each type of inflation. (5 points)
  - b. To keep the price level stable, briefly explain the monetary policy guided by the Keynesian feedback rule in response to **both types** of inflation mentioned in part a. Your answer should include what the appropriate policies are and what effects the policies have on price level and real GDP. (10 points)
  
3. Keith hires Maria to tutor him in English. Keith is willing to pay \$40 for the first hour of tutoring, \$30 for the second, \$20 for the third, \$15 for the fourth, and \$10 for the fifth. Maria has an opportunity cost per hour of \$6 for the first, \$9 for the second, \$12 for the third, \$15 for the fourth, and \$18 for the fifth.
  - a. What will be the equilibrium quantity of hours tutored and the equilibrium price? (4 points)
  - b. Explain why this quantity and price is the equilibrium. (3 points)
  - c. What is Jason's consumer surplus and what is Maria's producer surplus? (4 - points)
  
4.
  - a. Recently, Taiwan experienced relatively high unemployment rates than the past few decades. Unemployment by causes usually is classified into three types, frictional, structural, and cyclical. Please give an example of how each type of unemployment can begin. (5 points)
  - b. Please comment on the following statements: "When the economy is at full employment, the unemployment rate is zero." (5 points)

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計算題每題 10 分：

1. Evaluate  $\lim_{x \rightarrow \infty} (\sqrt{x^2 + x} - \sqrt{x^2 + 1})$ .

2. Evaluate  $\int_{-5}^1 \frac{(x+2)[e^{(x+2)^2} - (x+2)^2]}{\sqrt{(x+2)^4 + 1}} dx$ .

3. Evaluate  $\int_0^2 \int_{y/2}^1 e^{x^2} dx dy$ .

4. Evaluate  $\int_0^1 x \sin^2(x^2 + 1) \cos(x^2 + 1) dx$ .

5. Find  $\frac{dy}{dx}$  for  $y = \frac{\cos(x^2 - 1)}{2x + 5}$ .

6. Find the Maclaurin series representation for  $f(x) = \cos x$ .

7. Determine the convergence or divergence of the following series:

(a)  $\sum_{n=1}^{\infty} \frac{e^n}{n!}$ , (b)  $\sum_{n=1}^{\infty} \frac{e^2}{n^{\ln 3}}$ .

8. A store sells 20 bicycles per week at a price of \$400 each. The manager estimates that for each \$10 price reduction she can sell two more bicycles per week. The bicycles cost the store \$200 each. (a) Find the demand function for this store. (b) Find the price of the bicycles and the quantity that maximize profit.

9. The Cobb-Douglas production function for a particular manufacturer is given by  $f(L, K) = L^{0.25} K^{0.75}$ , where  $L$  represents the units of labor (at \$100/unit) and  $K$  represents capital (at \$150/unit). Find the maximum production level if the total cost of labor and capital is limited to \$6,400.

10. 一購屋者計畫購買一現值總價  $L$  元之新屋，此購屋者準備了  $x$  元 ( $x < L$ ) 之頭期款，其餘不足款項將向銀行辦理年利率為  $r$  之房屋貸款，自繳交頭期款並同時辦理房貸後的第一個月開始共計  $N$  年貸款，每月還款支付本息攤提固定金額  $F$  元予銀行，請列式說明以上各變數間之關係為何？