

國立中山大學 96 學年度轉學生招生考試試題

科目：微積分【政經系三年級】

共 頁 第 頁

計算題，每大題 20 分。(以下個題均需明列計算過程。若僅陳述答案，不予計分)。

1. Use the Lagrangian-Multiplier method to find the extremum of the following problem. You're required to check the second order condition.

(a) $x_1x_2 + 2x_1$ s.t. $4x_1 + 2x_2 = 60$;

(b) $x_1^2 + x_2^2$ s.t. $x_1 + 4x_2 = 2$.

2. Find local extremum for the following function. The second-derivative test must be performed (That is, you're required to check the second order condition).

$$f(x, y) = x + 2ey - e^x - e^{2y}$$

3. Consider a market model with the following three equations:

$$Q_{dt} = Q_{st}$$

$$Q_{dt} = \alpha - \beta P_t, \alpha > 0, \beta > 0$$

$$Q_{st} = -\gamma + \delta P_{t-1}, \gamma > 0, \delta > 0$$

(a) Please solve P_t (You may denote the initial price as P_0).

(b) Please find the condition that P_t is convergent.

4. Consider each of the following systems of equations of the general form $AX = Y$.

$$7x - 3y - 3z = 7$$

$$2x + 3y + 3z = 2$$

$$4y + 2z = 4$$

(a) Please solve the above system by $X = A^{-1}Y$.

(b) Please solve the above system by Cramer's rule..

5. Please solve the following system of equations and draw the phase diagram.

$$\dot{x} = 3x + 2y$$

$$\dot{y} = 6x - y$$

國立中山大學 96 學年度轉學生招生考試試題

科目：政治學【政經系三年級】

共 / 頁 第 頁

以下申論，共計四題，每題 25 分，請詳答。

- 1、 請由理論與實例，分析「新民主」(new democracy) 國家可能會經歷的問題。
- 2、 請說明並比較內閣制、總統制、雙首長制之特色與優缺點。
- 3、 什麼是民族主義？民族主義對於一國之政治可能有哪些影響？
- 4、 「全球化讓所有的人擁有相同的機會，面對同樣的挑戰」——同意此說法嗎？試評述之。

國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 1 頁

Multiple Choice

Identify the letter of the choice that best completes the statement or answers the question.

- ___ 1. Mallory decides to spend 3 hours working overtime rather than watching a video with her friends. She earns \$8 an hour. Her opportunity cost of working is
 - a. the \$24 she earns working.
 - b. the \$24 minus the enjoyment she would have received from watching the video.
 - c. the enjoyment she would have received had she watched the video.
 - d. nothing, since she would have received less than \$24 of enjoyment from the video.
- ___ 2. What would be the best statement about a theory based on assumptions that are not true?
 - a. If the assumptions underlying the theory are not true, the theory must be false.
 - b. The ideas may be good in theory, but not in practice.
 - c. The theory is a good one if it helps us to understand how the world works.
 - d. The theory is a good one if no logical mistakes were made in developing it.
- ___ 3. Mike and Sandy are two woodworkers who both make tables and chairs. In one month, Mike can make 4 tables or 20 chairs, where Sandy can make 6 tables or 18 chairs. Given this, we know that
 - a. Mike has a comparative advantage in tables.
 - b. Sandy has an absolute advantage in chairs.
 - c. Mike has an absolute advantage in tables.
 - d. Sandy has a comparative advantage in tables.
- ___ 4. Suppose that a decrease in the price of X results in less of good Y sold. This would mean that X and Y are
 - a. complementary goods.
 - b. normal goods.
 - c. inferior goods.
 - d. substitute goods.
- ___ 5. If a 15 percent increase in price causes a 30 percent decrease in quantity demanded, this product might
 - a. have no close substitute.
 - b. be a luxury.
 - c. be part of a broadly defined market.
 - d. be in a short time horizon.
- ___ 6. Get Smart University is contemplating increasing tuition to enhance revenue. If GSU feels that raising tuition would enhance revenue, they are
 - a. necessarily ignoring the law of demand.
 - b. assuming that the demand for university education is elastic.
 - c. assuming that the demand for university education is inelastic.
 - d. assuming that the supply of university education is elastic.
- ___ 7. A minimum wage imposed above a market's equilibrium wage will result in the quantity
 - a. supplied of labor being greater than the quantity demanded of labor and unemployment will occur.
 - b. demanded of labor being greater than the quantity supplied of labor and unemployment will occur.
 - c. supplied of labor being greater than the quantity demanded of labor and a shortage of workers will occur.
 - d. demanded of labor being greater than the quantity supplied of labor and a shortage of workers will occur.

【背面還有試題】

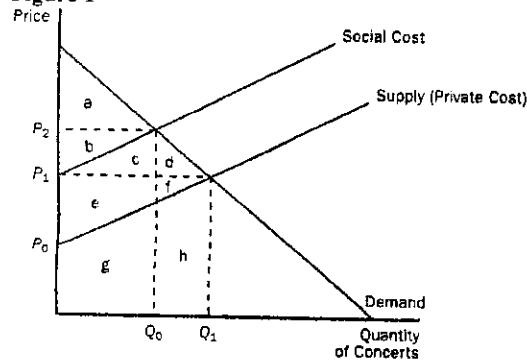
國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 2 頁

8. A tax on the sellers of tires will
- reduce the equilibrium price of tires, and increase the equilibrium quantity.
 - reduce the equilibrium price of tires, and reduce the equilibrium quantity.
 - increase the equilibrium price of tires, and increase the equilibrium quantity.
 - increase the equilibrium price of tires, and reduce the equilibrium quantity.
9. Dallas buys strawberries, and would be willing to pay more than he now has to pay. Suppose that Dallas has a change in his tastes such that he values strawberries more than before. If the market price is the same as before, then
- Dallas's consumer surplus would be unaffected.
 - Dallas's consumer surplus would increase.
 - Dallas's consumer surplus would decrease.
 - Dallas would be wise to buy fewer strawberries than before.
10. If a tax is imposed on a market with elastic demand and inelastic supply,
- buyers will bear most of the burden of the tax.
 - sellers will bear most of the burden of the tax.
 - the burden of the tax will be shared equally between buyers and sellers.
 - it is impossible to determine how the burden of the tax will be shared.
11. A tariff is a tax placed on
- exported goods that lowers the domestic price below the world price.
 - exported goods that keeps the domestic price the same as the world price.
 - imported goods that lowers the domestic price below the world price.
 - imported goods that raises the domestic price above the world price.
12. When a negative externality exists in a market the cost to producers
- is greater than the cost to society.
 - will be the same as the cost to society.
 - will be less than the cost to society.
 - and society will be different regardless of whether an externality is present.

Figure 1



13. Refer to Figure 1. If this market currently produces Q_3 , total economic well-being would be increased if
- production decreased to Q_2 .
 - production increased to Q_4 .
 - this product were no longer produced.
 - Since well-being is maximized at Q_3 it cannot be increased.

國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 3 頁

- ___ 14. Both public goods and common resources are
- rival.
 - nonrival.
 - excludable.
 - nonexcludable.
- ___ 15. Which of the following statements is most correct?
- A general sales tax on food is regressive when low-income taxpayers spend a larger proportion of their income on food than high-income taxpayers.
 - A general sales tax on food is regressive when middle income taxpayers spend a smaller proportion of their income on food than high-income taxpayers.
 - A general sales tax on food is regressive when high-income taxpayers spend a larger proportion of their income on food than middle income taxpayers.
 - A general sales tax on food is regressive when high-income taxpayers spend a larger proportion of their income on food than low-income taxpayers.
- ___ 16. Consider the following information about baseball production at Bob's Baseball Factory:

Worker	Marginal Product
1	3
2	5
3	8
4	10
5	7
6	4
7	2

Bob pays all his workers the same wage and labor is his only variable cost. From this information we can conclude that Bob's average variable cost decreases

- as output rises from 0 to 10, but rises after that.
 - as output rises from 0 to 26, but rises after that.
 - as output rises from 0 to 33, but increases after that.
 - continually as output rises.
- ___ 17. A monopolist's marginal revenue is less than price because
- to sell additional units of the good, the price charged on all units must decrease.
 - with the sale of an additional unit, the monopolist receives less revenue for each of the previous units it planned to sell.
 - of the upward-sloping average revenue curve.
- (i) and (ii)
 - (ii) and (iii)
 - (i) and (iii)
 - All of the above are correct.
- ___ 18. If one were to compare a competitive market to a monopoly that engages in perfect price discrimination, one could say that
- in both cases, total social welfare is the same.
 - total social welfare is maximized in the competitive market, but not in the perfectly discriminating monopoly.
 - in both cases, some potentially mutually beneficial trades do not occur.
 - consumer surplus is the same in both cases.

【背面還有試題】

國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 4 頁

19. Dave and Andy are competitors in a local market. Each is trying to decide if it is better to advertise on TV, on radio, or not at all. If they both advertise on TV, each will earn a profit of \$4,000. If they both advertise on radio, each will earn a profit of \$7,000. If neither advertises at all, each will earn a profit of \$10,000. If one advertises on TV and other advertises on radio, then the one advertising on TV will earn \$6,000 and the other will earn \$5,000. If one advertises on TV and the other does not advertise, then the one advertising on TV will earn \$11,000 and the other will earn \$2,000. If one advertises on radio and the other does not advertise, then the one advertising on radio will earn \$12,000 and the other will earn \$4,000. If both follow their dominant strategy, then Dave will
- advertise on TV and earn \$4,000.
 - advertise on radio and earn \$7,000.
 - advertise on TV and earn \$11,000.
 - not advertise and earn \$10,000.

20. A monopolistically competitive firm faces the following demand curve for its product:

Price (\$)	10	9	8	7	6	5	4	3	2	1
Quantity	2	4	6	9	10	12	14	16	18	20

The firm has total fixed costs of \$20 and a constant marginal cost of \$2 per unit. The firm will

- produce nine units; firms will enter the market in the long run.
 - produce 10 units; firms will enter the market in the long run.
 - produce 12 units; firms will enter the market in the long run.
 - produce 10 units; firms will exit the market in the long run.
21. Aurora Custom Cabinets produces and sells custom kitchen cabinets. The firm has determined that if it hires 10 workers, it can produce 4 sets of cabinets per day. Alternatively, if it hires 11 workers, it can produce 4.2 sets of cabinets per day. It sells each set of cabinets for \$2,000, and it pays each of its workers \$200 per day.
- For the 11th worker, the value of the marginal product of labor is \$500.
 - For the 11th worker, the marginal revenue product is \$400.
 - The firm is maximizing its profit.
 - If the firm is employing 11 workers, then its profit would increase if it cut back to 10 workers.
22. Nemedra and Aquilonia have just started to trade with each other. Nemedra exports goods produced with skilled labor and imports goods made with unskilled labor from Aquilonia. Over time we would expect that the wages of skilled labor in Nemedra will
- rise and the wages of unskilled labor in Nemedra will fall.
 - fall and the wages of unskilled labor in Nemedra will rise.
 - rise and the wages of unskilled labor in Nemedra will rise.
 - fall and the wages of unskilled labor in Nemedra will fall.
23. Suppose that income is subject to increasing marginal utility. From a Utilitarian perspective,
- some income redistribution from rich to poor would increase social welfare.
 - some income redistribution from poor to rich would increase social welfare.
 - any income redistribution would probably reduce social welfare.
 - any income redistribution would probably increase social welfare.
24. If goods are perfect substitutes, the income effect of a price change
- is always positive.
 - is zero.
 - is always negative.
 - cannot be determined.

國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 5 頁

- _____ 25. The "lemons" problem is a likely explanation for the fact that
- for several months after it is new, the price of a car falls very little.
 - almost no one favors government-provided health insurance.
 - people in average health may be discouraged from buying health insurance by the high price.
 - employers are reluctant to monitor the activities of their workers, fearing that some of the workers may take legal action against the employers.
- _____ 26. A German citizen buys an automobile produced in the United States by a Japanese company. As a result,
- U.S. net exports increase, U.S. GNP and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GNP and GDP are unaffected.
 - U.S. net exports, GNP, and GDP increase, Japanese GDP increases, German net exports decrease, and German GDP is unaffected.
 - U.S. net exports and GDP increase, Japanese GNP increases, German net exports decrease, and German GDP and GNP are unaffected.
 - U.S. net exports, GNP, and GDP are unaffected, Japanese GNP increases, German net exports decrease, and German GDP and GNP fall.
- _____ 27. If the number of workers in an economy doubled, all other inputs stayed the same, and there were constant returns to scale, productivity would
- fall to half its former value.
 - fall but by less than half.
 - stay the same.
 - rise but less than double.
- _____ 28. Real GDP per person is \$21,000 in Aquilonia, \$15,000 in Nemedra and \$6,000 in Shem. Saving per person is \$2,000 in all three countries. Other things equal, we would expect that
- all three countries will grow at the same rate.
 - Aquilonia will grow the fastest.
 - Nemedra will grow the fastest.
 - Shem will grow the fastest.
- _____ 29. If there is surplus of loanable funds, then
- the supply for loanable funds shifts right and the demand shifts left.
 - the supply for loanable funds shifts left and the demand shifts right.
 - neither curve shifts, but the quantity of loanable funds supplied increases and the quantity demanded decreases as the interest rate rises to equilibrium.
 - neither curve shifts, but the quantity of loanable funds supplied decreases and the quantity demanded increases as the interest rate falls to equilibrium.
- _____ 30. A firm has four different investment options. Option A will give the firm \$10 million at the end of one year, \$10 million at the end of two years, and \$10 million at the end of three years. Option B will give the firm \$5 million at the end of one year, \$10 million at the end of two years, and \$15 million at the end of three years. Option C will give the firm \$15 million at the end of one year, \$10 million at the end of two years, and \$5 million at the end of three years. Option D will give the firm \$21 million at the end of one year, nothing at the end of two years, and \$9 million at the end of three years. Which of these options has the highest present value if the rate of interest is 5 percent?
- Option A
 - Option B
 - Option C
 - Option D

【背面還有試題】

國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 6 頁

- _____ 31. President Bigego is running for re-election against Senator Pander. Bigego proclaims that more people are working now than when he took office. Pander says that the unemployment rate is higher now than when Bigego took office. You conclude that
- one of them must be lying.
 - both of them could be telling the truth if the labor force participation rate and the labor force both fell.
 - both of them could be telling the truth if the labor force grew slower than employment.
 - both of them could be telling the truth if the labor force grew faster than employment.
- _____ 32. The Fed can increase the price level by conducting open market
- sales and raising the discount rate.
 - sales and lowering the discount rate.
 - purchases and raising the discount rate.
 - purchases and lowering the discount rate.
- _____ 33. When the money market is drawn with the value of money on the vertical axis, if the price level is above the equilibrium level, there is a
- shortage, so the price level will rise.
 - shortage, so the price level will fall.
 - surplus, so the price level will rise.
 - surplus, so the price level will fall.
- _____ 34. Velocity in the country of Nemedra is always stable. In 2001, the money supply was \$100 billion and real GDP was \$300 billion. In 2002, the money supply increased by 10 percent, real GDP increased by 5 percent and nominal GDP equaled \$660 billion. By how much did the price level increase between 2001 and 2002?
- 10 percent
 - 9.5 percent
 - 4.76 percent
 - There is not enough information to answer the question.
- _____ 35. A Russian flour mill buys wheat from the United States and pays for it with rubles. Other things the same, Russian
- net exports increase, and U.S. net capital outflow increases.
 - net exports increase, and U.S. net capital outflow decreases.
 - net exports decrease, and U.S. net capital outflow increases.
 - net exports decrease, and U.S. net capital outflow decreases.
- _____ 36. In the open-economy macroeconomic model, the quantity of dollars demanded in the foreign-currency exchange market
- depends on the real exchange rate. The quantity of dollars supplied in the foreign-exchange market depends on the real interest rate.
 - depends on the real interest rate. The quantity of dollars supplied in the foreign-exchange market depends on the real exchange rate.
 - and the quantity of dollars supplied in the foreign-currency exchange market depend on the real exchange rate.
 - and the quantity of dollars supplied in the foreign-currency exchange market depend on the real interest rate.
- _____ 37. An increase in the expected price level shifts short-run aggregate supply to the
- right, and an increase in the actual price level shifts short-run aggregate supply to the right.
 - right, and an increase in the actual price level does not shift short-run aggregate supply.
 - left, and an increase in the actual price level shifts short-run aggregate supply to the left.
 - left, and an increase in the actual price level does not shift short-run aggregate supply.

國立中山大學 96 學年度轉學生招生考試試題

科目：經濟學【政經系三年級】

共 7 頁 第 7 頁

- _____ 38. The economy is in long-run equilibrium. Technological change shifts the long-run aggregate supply curve \$60 billion to the right. At the same time, government purchases increase by \$30 billion. If the MPC equals 0.8 and the crowding-out effect is \$60 billion, we would expect that in the long-run,
- both real GDP and the price level would be higher.
 - both real GDP and the price level would be lower.
 - real GDP would be higher but the price level would be lower.
 - real GDP would be higher but the price level would be the same.
- _____ 39. Suppose that monetary policymakers announced that they were going to make a serious effort to fight inflation. A few years later the inflation rate has been reduced, but there had also been a serious recession. We could conclude with certainty that
- the rational expectations hypothesis is false.
 - the rational expectations hypothesis is true.
 - the policymakers lacked credibility.
 - None of the above is certain.
- _____ 40. If a central bank had to give up its discretion and had to follow a rule that required it to keep inflation low,
- the short-run Phillips curve would shift up.
 - the short-run Phillips curve would shift down.
 - the long-run Phillips curve would shift right.
 - the long-run Phillips curve would shift left.