

國立中山大學 95 學年度轉學生招生考試試題

科目：微積分【政經系二年級】

共 | 頁第 | 頁

計算題，每題 10 分。(以下各題均需明列計算過程。若僅陳述答案，不允許分)。

1. 設 $f(x) = \begin{cases} e^x & \text{if } x < 0 \\ a + x + 2 & \text{if } x \geq 0 \end{cases}$ ，在 \mathbf{R} 上連續，則 $a =$ _____。

2. 設函數 $f(x)$ 可微，則 $\lim_{h \rightarrow 0} \frac{f(x+2h) - f(x)}{h} =$ _____。

3. 利用 L'Hospital rule 求下列極限： $\lim_{x \rightarrow 0} \frac{\ln(1+x)}{x} =$ _____。

4. 已知 $y = e^{f(x)}$ 且函數 $f(x)$ 可微，則 $\frac{d^2 y}{dx^2} =$ _____。

5. 已知 $e^z = xyz$ ，試求 $\frac{\partial^2 z}{\partial x \partial y} =$ _____。

6. 試描繪下列函數的圖形： $y = \frac{2x-1}{x-1}$ 。

7. 已知 $\int f(x+1)dx = xe^{x+1} + C$ ，則 $f(x) =$ _____。

8. 試求 $\int x^2 e^{-x} dx =$ _____。

9. 試利用泰勒展開法(Taylor's Expansion)，將 e^x 在 $x=0$ 處作二階泰勒展開。

10. 假設某廠商要為新產品定價。已知生產 x 件這種新產品的成本為 $C(x) = 100 + 2x$ (元)，又由過去的經驗法則可知銷售量與商品價格 p 的關係式為 $\frac{x}{100} = 3(1 - \frac{p}{10})$ 。試問當產品定價為多少時，廠商所獲得的利潤最大？

國立中山大學 95 學年度轉學生招生考試試題

科目：政治學【政經系二年級】

共 / 頁 第 / 頁

注意：各題配分不同，請掌握時間作答

1. 我國目前已修正選舉制度成為「單一選區，兩票制」，請問其目的為何？而單一選區是否會促成「兩黨政治」的發展？原因為何？此外，「單一選區」制是否也有其缺陷？請舉實例說明之。最後則請說明為何我國於單一選區制中做出「兩票制」的設計，亦即我國採用「兩票制」的原因為何？而該制又將如何施行？(30%)
2. 現代民族國家的體制主要可以區分為「單一型體制」、「聯邦體制」與「邦聯體制」等三種類型。請問這三種體制的意涵為何？其又有何不同之處？請舉實例比較與說明。(20%)
3. 請問「憲法」的政治義涵為何？其對國家政治之運作有何影響？一部民主的憲法至少應該包括哪些內容？又何謂「憲政之治」？而達成憲政之治的方式為何？(20%)
4. 名詞解釋 (30%；每小題 6 分)
 - a. Pluralism
 - b. Quango
 - c. Referendum
 - d. Veto
 - e. Ombudsman

國立中山大學 95 學年度轉學生招生考試試題

科目：經濟學【政經系二年級】

共 5 頁 第 1 頁

Multiple Choice

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

- ___ 1. Suppose you are considering going to the movies, and you place a \$12 value on your anticipated enjoyment of the movie. The ticket price is \$6 and you would be giving up two hours of work, where you earn \$5 per hour. You would go to
 - a. work; the opportunity cost of the movies exceeds the expected benefit.
 - b. the movies; your incentive is the \$6 excess expected benefit.
 - c. the movies; your enjoyment will exceed the lost wages by \$2.
 - d. the movies; the benefit of \$18 exceeds the lost wages.
- ___ 2. The production possibilities frontier demonstrates the basic economic principle that:
 - a. economies are always efficient.
 - b. assuming full employment, supply will always determine demand.
 - c. assuming full employment, an economy is efficient only when the production of capital goods in a particular year is greater than the production of consumption goods in that year.
 - d. assuming full employment, to produce more of any one thing, the economy must produce less of at least one other good.
- ___ 3. Which of the following will change a nation's comparative advantage?
 - a. a technological advance in producing manufactured goods
 - b. a doubling of all wages
 - c. quotas on imports
 - d. a change in consumers' preferences for imported goods
- ___ 4. Suppose that the demand for apples increased more than the supply of apples increased. The net effect of these two changes would be a(n)
 - a. increase in the equilibrium price and a decrease in the equilibrium quantity.
 - b. increase in the equilibrium price and an increase in the equilibrium quantity.
 - c. decrease in the equilibrium price and an increase in the equilibrium quantity.
 - d. decrease in the equilibrium price and a decrease in the equilibrium quantity.
- ___ 5. A perfectly inelastic supply curve represents a
 - a. product supply that is extremely responsive to a price change.
 - b. product with a constant price, regardless of the quantity offered for sale.
 - c. product in abundant supply.
 - d. fixed supply of a good.
- ___ 6. Assume that the government sets a ceiling on the interest rate that banks charge on loans. If the ceiling is set below the market equilibrium interest rate, the result will be
 - a. a surplus of credit.
 - b. a shortage of credit.
 - c. greater profits for banks issuing credit.
 - d. a perfectly inelastic supply of credit in the market place.
- ___ 7. The demand curve shows the
 - a. highest price buyers actually pay for each unit of a good and the amount they would buy.
 - b. highest price buyers would be willing and able to pay for each unit of the good or the amount purchased at each price.
 - c. consumer surplus buyers gain from each unit of the good if they were to purchase it.
 - d. enjoyment consumers get from each unit of the good if they were to purchase it.
- ___ 8. Deadweight loss
 - a. means that there is a loss to some individuals without a corresponding gain to others.
 - b. is not really a loss to society because what one individual loses another individual gains.
 - c. can be eliminated by sales taxes.
 - d. can occur even if output is at the efficient level.

【背面還有試題】

國立中山大學 95 學年度轉學生招生考試試題

科目：經濟學【政經系二年級】

共 5 頁 第 2 頁

- ___ 9. As a result of free trade in a commodity, the
- price of the commodity must be the same in all countries.
 - total quantity imported will exceed the total quantity exported.
 - price of the commodity will be higher in the producing country.
 - price of the commodity will be lower in the producing country.
- ___ 10. Market failure in the form of externalities arises when
- production costs are included in the prices of goods.
 - not all costs and benefits are included in the prices of goods.
 - the benefits exceed the costs of consuming goods.
 - the market fails to achieve equilibrium.
- ___ 11. If a perfectly competitive industry is not forced to take account of a negative externality it creates, it will produce where
- the marginal cost of production equals the marginal private benefit.
 - the marginal cost of production equals the marginal social benefit.
 - the marginal social cost of production equals the marginal social benefit.
 - price equals marginal social benefit.
- ___ 12. To achieve the optimal provision of public goods the
- market should be allowed to find its equilibrium without government intervention.
 - government must limit the provision of the goods.
 - government must tax producers of these goods.
 - government must either provide the goods or subsidize their production.
- ___ 13. Minimizing the total deadweight loss from taxes that raise a certain amount of revenue for the government is known as
- an external benefit.
 - optimal taxation.
 - a lump-sum tax scheme.
 - horizontal equity.
- ___ 14. Which of the following is an implicit cost?
- salaries paid to owners who work for the firm
 - interest on money borrowed to finance equipment purchases
 - cash payments for raw materials
 - foregone rent on office space owned and used by the firm
- ___ 15. Free entry means that
- there are no costs of entering into an industry.
 - no legal barriers prevent a firm from entering an industry.
 - a firm's marginal cost is zero.
 - a firm has no fixed costs in the short run.
- ___ 16. If government officials break a natural monopoly up into several smaller firms, then
- competition will force firms to attain economic profits rather than accounting profits.
 - competition will force firms to produce surplus output, which drives up price.
 - the average costs of production will increase.
 - the average costs of production will decrease.
- ___ 17. A firm in a monopolistically competitive market is similar to a monopolist in the sense that it
- must overcome significant barriers to entry.
 - faces a downward-sloping demand curve.
 - has no barriers to entry or exit.
 - it is only one seller of the good.

國立中山大學 95 學年度轉學生招生考試試題

科目：經濟學【政經系二年級】

共 5 頁 第 3 頁

- ___ 18. Product differentiation allows the firm to
- raise price and lower quantity demanded.
 - raise price without suffering a substantial loss of sales.
 - shift the market demand curve to the left.
 - decrease barriers to entry.
- ___ 19. The demand for labor by a particular firm is ultimately derived from
- the productivity of labor.
 - the productivity of the firm's other inputs.
 - demand for the firm's output.
 - the market supply of labor.
- ___ 20. One reason why individuals with greater ability receive higher wage rates is that they
- face discrimination.
 - have lower marginal products.
 - have higher marginal products.
 - face diminishing marginal returns.
- ___ 21. The percentage of families with incomes below the poverty line
- is defined as the lowest 10 percent of households in terms of incomes in the United States.
 - is known as the poverty rate.
 - is known as the unemployment rate.
 - rises as the general income level rises.
- ___ 22. Suppose Rich always uses two packets of sugar with his coffee. Rich's indifference curves for sugar and coffee are
- bowed inward.
 - bowed outward.
 - straight lines.
 - L shaped.
- ___ 23. Moral hazard occurs when
- the principal monitors an agent.
 - two people might trade with each other and one person has relevant information about some aspect of the product's quality that the other person lacks.
 - an agent lacks an incentive to promote the best interests of the principal, and the principal cannot observe the actions of the agent.
 - an agent monitors the principal.
- ___ 24. Which of the following would be counted as an investment expenditure in the national income accounts?
- The Navy builds a new battleship.
 - Microsoft expands plant capacity to produce new software.
 - A public high school builds a new football stadium.
 - All of the above would be counted as an investment expenditure.
- ___ 25. The GDP deflator differs from the CPI(Consumer Price Index) because the GDP deflator includes goods we _____, while the CPI includes goods we _____.
- import; export
 - export; import
 - buy; sell
 - consume; produce
- ___ 26. When the inflation rate ends up being lower than expected,
- everyone benefits because money is cheaper.
 - everyone benefits because prices do not increase.
 - lenders of fixed-rate mortgages generally benefit because they will make higher profits than they had calculated.
 - borrowers with fixed-rate loans will benefit because their purchasing power will not decline as much.

【背面還有試題】

國立中山大學 95 學年度轉學生招生考試試題

科目：經濟學【政經系二年級】

共 5 頁 第 4 頁

- ___ 27. If the capital stock increases faster than employment, then we would expect
- both output and labor productivity to rise.
 - output to rise but labor productivity to fall.
 - both output and labor productivity to fall.
 - output to fall but labor productivity to rise.
- ___ 28. A singular important link between politics and economics in countries that are attempting to increase their economic growth rates is that
- democracies are more productive than non-democracies.
 - democracies must constantly make difficult budgetary choices.
 - political instability is incompatible with long-term private investment.
 - conservative governments tend to focus development on military industries.
- ___ 29. If technical progress raises productivity permanently, then
- the equilibrium interest rate will increase.
 - equilibrium saving will increase.
 - real GDP will increase.
 - All of the above are correct.
- ___ 30. If the efficient markets theory is correct, stock prices
- do not respond to unpredictable events.
 - are unpredictable.
 - rise at the beginning of a month and fall at the end of a month.
 - follow a predictable pattern over time.
- ___ 31. The amount of _____ increases when the economy goes into a recession and decreases when the economy goes into an expansion.
- structural unemployment
 - seasonal unemployment
 - cyclical unemployment
 - frictional unemployment
- ___ 32. Barter exchange tends to be inefficient because
- gold is difficult to transport.
 - it limits the time and effort required for trade.
 - it can be a very time-consuming process to find a double coincidence of wants.
 - a standardized unit of value can be difficult to find in a primitive economy.
- ___ 33. The most effective and frequently used tool the Fed (U.S. central bank) has at its disposal to change the economy's money supply is
- open market operations.
 - the discount rate.
 - the reserve requirement.
 - the federal funds rate.
- ___ 34. According to classical economists
- prices are rigid.
 - both velocity and real output are variable.
 - changes in the money supply cause changes in velocity.
 - the velocity of money is constant.
- ___ 35. Which of the following is a statement of the purchasing power parity theory of exchange rate determination? The exchange rate will adjust in the
- long run until the interest rate is roughly the same in both countries.
 - long run until real GDP is roughly the same in both countries.
 - long run until the average price of goods is roughly the same in both countries.
 - short run until the average price of goods is roughly the same in both countries.

國立中山大學 95 學年度轉學生招生考試試題

科目：經濟學【政經系二年級】

共 5 頁 第 5 頁

- ___ 36. If the United States government wants to eliminate a trade deficit, it could
- reduce tariffs.
 - encourage imports.
 - reduce quotas on imports.
 - depreciate the dollar.
- ___ 37. Which of the following will cause the aggregate supply curve to shift to the right?
- increases in wages and salaries paid to employees
 - increases in the prices of oil and natural gas
 - increases in taxes for business
 - new work rules that increase the productivity of labor
- ___ 38. The multiplier effect
- tells us that a change in government spending changes equilibrium GDP by more than the change in government spending.
 - works only for increases in investment.
 - is relevant only in situations where the MPC cannot be determined.
 - tells us whether a change in government policy has been effective.
- ___ 39. According to the theory of rational expectations,
- the Phillips curve is upward sloping in the short run and downward sloping in the long run.
 - both for the short and long runs, the Phillips curve is horizontal.
 - both for the short and long runs, the Phillips curve is vertical.
 - there is no Phillips curve.
- ___ 40. The national debt
- can be paid off without major economic effects.
 - need never be paid off.
 - is no more serious a problem than is a corporation's debt.
 - should not exist during a period of economic prosperity.