

INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

15 September 2021 (am)

Subject CB2 - Business Economics

Core Principles

Time allowed: Three hours and twenty minutes

<p>In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.</p>
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If you encounter any issues during the examination please contact the Assessment Team on
T. 0044 (0) 1865 268 873.

- 1 Which of the following statements is **NOT** correct in relation to the Austrian school of thought?

Economists following the Austrian school of thought:

- (i) place emphasis on individual subjective preferences.
- (ii) focus on market forces determining prices.
- (iii) believe in a centrally planned economic system.

- A (i) only
- B (ii) only
- C (iii) only
- D (i), (ii) and (iii).

[1½]

- 2 If the government chooses to use resources to build a hospital instead of a school, this illustrates the concept of:

- A a market system.
- B macroeconomics.
- C competition.
- D opportunity cost.

[1½]

- 3 The substitution effect of a price decrease causes an individual to purchase more units of a normal good because:

- A the good becomes less expensive relative to all other products.
- B the change in price causes a decline in purchasing power.
- C the good becomes more expensive relative to all other products.
- D the change in price causes an increase in purchasing power.

[1½]

- 4 Which of the following would **NOT** explain why, when the price of a good rises, the quantity supplied will also rise?

- A Firms expect future prices to rise.
- B At higher levels of output, firms will incur higher costs.
- C The higher the price, the more profitable a good becomes to produce.
- D Firms expect future prices to fall.

[1½]

5 If the income elasticity of demand for Good X is 2, a rise in all consumers' disposable incomes from £50 million to £52 million will increase the quantity demanded of Good X by:

- A 2%.
- B 4%.
- C 6%.
- D 8%.

[1½]

6 In a perfectly competitive market, a typical firm cannot affect the price of its output, and so it maximises profits when marginal cost is:

- A less than the price.
- B greater than the price.
- C equal to the price.
- D below average variable cost.

[1½]

7 In the long run, a firm operating in an industry characterised by monopolistic competition will:

- A produce at the lowest point of its long run average cost curve.
- B have excess capacity.
- C produce at a socially efficient output level.
- D produce at the lowest point of its marginal cost curve.

[1½]

8 In relation to insurance, moral hazard describes the fact that:

- A people who know that they are a particularly high risk are more inclined to take out insurance.
- B people who know that they are a particularly high risk are less inclined to take out insurance.
- C an insurance company will face false insurance claims.
- D a policyholder may act in a way that makes the insured event more likely to occur.

[1½]

- 9 The following table gives a breakdown of a firm's average cost and average revenue at various levels of output.

<i>Output</i>	<i>Average cost (£)</i>	<i>Average revenue (£)</i>
1	15	20
2	13	19
3	12	18
4	12	15
5	14	12
6	16	9

Which of the following is TRUE?

- A The marginal cost of producing the fourth item is greater than the marginal cost of producing the first item.
- B The marginal cost of producing the fourth item is less than the marginal revenue from selling the fourth item.
- C The marginal revenue from selling the sixth item is positive.
- D The marginal revenue from selling the third item is greater than the marginal cost of producing the third item.

[1½]

- 10 Which of the following is an example of economies of scope?

- A A firm doubles its inputs of capital and labour and its output more than doubles.
- B A firm doubles the number of products it produces and also doubles its research budget.
- C A firm produces a new product and in so doing lowers the average cost of producing its existing products.
- D A firm produces a new product and in so doing lowers the price it charges on its existing products.

[1½]

- 11 Increasing long-run average costs are associated with:

- A constant returns to scale.
- B decreasing returns to scale.
- C increasing returns to scale.
- D the law of diminishing returns.

[1½]

12 Which of the following statements is TRUE?

- A Marginal physical product is equal to total physical product divided by average product.
- B Average physical product is always greater than marginal physical product.
- C Marginal physical product can never become negative.
- D Average physical product can never become negative.

[1½]

13 Given the following data, at what levels of employment are the average physical product and marginal physical products of labour at a maximum?

<i>Labour</i> (units per day)	<i>Output</i> (units per day)
0	0
1	5
2	14
3	22
4	28
5	33

- A Average physical product at 2 units of labour and marginal physical product at 1 unit of labour
- B Average physical product at 3 units of labour and marginal physical product at 2 units of labour
- C Average physical product at 4 units of labour and marginal physical product at 3 units of labour
- D Average physical product at 5 units of labour and marginal physical product at 4 units of labour.

[1½]

14 Assuming that the marginal and average cost curves are unchanged, then following an increase in demand, firms in a perfectly competitive industry will:

- A raise their price in the short run but restore the price back to its original level in the long run.
- B keep their price constant in both the short run and the long run.
- C raise their price in both the short run and the long run.
- D keep their price constant in the short run but raise their price in the long run.

[1½]

15 A firm producing carpets has average variable costs of production of £420, marginal costs of production of £500 and operates in a perfectly competitive market. A decrease in the demand for carpets that reduces the price from £600 to £400 will mean that in the short run the firm will:

- A shut down its production.
- B decrease its level of output but continue to produce carpets.
- C reduce its fixed costs of production.
- D increase its level of output.

[1½]

16 For a monopoly, price exceeds marginal revenue because:

- A the firm has to charge a price higher than the marginal cost of producing the last unit.
- B any decision by the monopolist to sell an additional unit of output does not affect price.
- C the firm has to reduce the price on all units sold in order to sell an additional unit.
- D of the law of diminishing returns.

[1½]

17 A firm is producing 1,000 units of output at a price of €20, with a marginal cost of €5 and average cost of €8 at that level of output. What is the supernormal profit that the monopoly firm is making?

- A €20,000
- B €15,000
- C €7,000
- D €12,000.

[1½]

18 Which of the following would constitute a supply side economic policy for reducing unemployment?

- A Increasing social security benefits
- B Increasing the money supply
- C Reducing corporate and personal taxation
- D Increasing government expenditure aimed at exploiting the multiplier effect.

[1½]

- 19** Assuming no crowding out effects, the adoption of a policy to reduce the government's budget deficit will involve:
- A an increase in aggregate demand and a reduction in real output.
 - B an increase in aggregate demand and an increase in real output.
 - C a reduction in aggregate demand and a reduction in real output.
 - D a reduction in aggregate demand and an increase in real output.
- [1½]
- 20** In a country with a population of 25 million, there are 16 million employed and 2 million unemployed. What is the rate of unemployment?
- A 8%
 - B 11.1%
 - C 12.5%
 - D 13%.
- [1½]
- 21** The introduction of a restrictive monetary policy in an open economy operating with a flexible exchange rate would most likely lead to:
- A higher domestic interest rates and an exchange rate appreciation.
 - B higher domestic interest rates and an exchange rate depreciation.
 - C lower domestic interest rates and an exchange rate appreciation.
 - D lower domestic interest rates and an exchange rate depreciation.
- [1½]
- 22** Which one of the following would **NOT** constitute a demand side economic policy for reducing unemployment?
- A Increased government expenditure on domestically produced goods
 - B Increased money supply
 - C Reduced corporate and personal taxation
 - D A privatisation programme.
- [1½]
- 23** If the government imposes a minimum wage that is above the market equilibrium wage, we would expect:
- A an increase in the quantity of labour demanded.
 - B the labour supply curve to shift to the left.
 - C an increase in the quantity of labour supplied.
 - D the demand for labour curve to shift to the left.
- [1½]

- 24** Other things being equal, the natural rate of unemployment would increase if the:
- A length of time for the typical job search increased.
 - B level of unemployment benefits paid to unemployed workers decreased.
 - C level of labour productivity rose.
 - D rate of inflation increased.
- [1½]
- 25** A government's attempts to increase the narrow money supply through open market operations are likely to cause short-term interest rates to:
- A rise and reduce money demand.
 - B rise and raise money demand.
 - C fall and reduce money demand.
 - D fall and raise money demand.
- [1½]
- 26** Assuming all other variables remain constant, a decrease in the average price level will result in a:
- A fall in the real interest rate.
 - B rise in the nominal wage rate.
 - C rise in the real wage rate.
 - D rise in the nominal interest rate.
- [1½]
- 27** Explain how the economic concepts of scarcity and choice are demonstrated when an individual is looking for a new home. [5]
- 28** Discuss, with reference to concepts offered by behavioural economics relating to consumers' irrational behaviour, why:
- consumers may purchase television sets flagged as being on special offer in the absence of any price reduction.
 - a consumer would buy a dishwasher that is the same brand as their washing machine despite there being better value brands of dishwashers on the market.
- [5]
- 29** Describe how consumers may exhibit speculative behaviour with their purchasing patterns in the event of a shortage in the food market and the impact this has on suppliers and society, with reference to an example. [6]

30 Explain which market structures best represent:

- hairdressing salons.
- firms in the cosmetics industry.

[5]

31 A consumer always spends all of their income and always seeks to maximise their satisfaction by purchasing only two Goods, X and Y.

The consumer has an initial income of £100, Good X initially costs £5 and Good Y initially costs £10. The consumer currently consumes 10 units of Good X and 5 units of Good Y. Good X and Good Y are both classified as normal goods. Use these figures as your starting point in answering parts (i) to (v).

- (i) Give an example of a new possible consumption bundle of the two goods, assuming the consumer's income increased to £150. [1]
- (ii) Give an example of a new possible consumption bundle of the two goods, if the price of Good Y were to fall to £5. [1]
- (iii) State the number of units of Good X consumed if the consumption of Good Y rises to 7 units due to a 50% fall in its price. [1]
- (iv) Explain the effect on the budget line and comment on its slope coefficient if the price of Good X rises from £5 to £6 and the price of Good Y rises from £7 to £12. [1]
- (v) Describe the substitution and income effects of a fall in the price of Good X, on the consumption of Good X. [1]

[Total 5]

32 You are given the following national accounting data for Country A.

	<i>£ billions</i>
Consumer expenditure (excluding indirect taxes and subsidies)	80
Government expenditure on goods/services	50
Transfer payments	20
Investment expenditure	30
Import expenditure	40
Export expenditure	25
Subsidies	15
Indirect taxes	20
Capital depreciation	5
Net property income from abroad	20

- (i) Calculate the Gross Domestic Product at market prices. [1]
 - (ii) Calculate the Gross Domestic Product at basic prices. [1]
 - (iii) Calculate the Gross National Income at basic prices. [1]
 - (iv) Calculate the Net National Income at basic prices. [1]
 - (v) Calculate the Net National Income at market prices. [1]
- [Total 5]

33 Describe the difference between government debt and government budget deficit. [4]

34 Explain the circumstances in which an increase in savings may **NOT** be beneficial to the economy. [6]

- 35**
- (i) Evaluate, with reference to the production of aircrafts in an open economy, whether the advantages of specialisation and division of labour outweigh the disadvantages. [5]
 - (ii) Explain, with the use of examples, why different components of an aircraft are likely to be produced in different countries. [5]
- [Total 10]

36 Discuss the potential economic challenges that countries may experience around the world, following a shock such as a pandemic, in the short run and the likely impact in the long term. [10]

END OF PAPER

