INSTITUTE AND FACULTY OF ACTUARIES

EXAMINATION

15 September 2021 (am)

Subject CB2 - Business Economics

Core Principles

Time allowed: Three hours and twenty minutes

In addition to this paper you should have available the 2002 edition of the Formulae and Tables and your own electronic calculator.

If you encounter any issues during the examination please contact the Assessment Team on T. 0044 (0) 1865 268 873.

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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.

Output	*Average cost (£)*	*Average revenue (£)*
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?

Labour (units per day)	*Output (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.

	£ billions
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