

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

1 October 2019 (am)

Subject CB2 – Business Economics Core Principles

Time allowed: Three hours and fifteen minutes

INSTRUCTIONS TO THE CANDIDATE

1. *Enter all the candidate and examination details as requested on the front of your answer booklet.*
2. *You must not start writing your answers in the booklet until instructed to do so by the supervisor.*
3. *Mark allocations are shown in brackets.*
4. *Attempt all questions. Answers to questions 1–26 should be indicated on the Multiple Choice Answer Sheet included in your booklet. From question 27 onwards begin your answer to each question on a new page.*
5. *Candidates should show calculations where this is appropriate.*

Graph paper is NOT required for this paper.

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet, with any additional sheets firmly attached, and this question paper.

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

- 1** The problem of scarcity in economics:
- A exists only in economies which rely on the market mechanism.
 - B could be eliminated if prices are forced to fall.
 - C means that there are shortages of some goods.
 - D exists because there are insufficient resources to satisfy human wants.
- [1½]
- 2** A student studying a one-year Masters degree in Actuarial Science has course fees of £12,000. Were she not studying she could have had a job paying an after-tax income of £20,000. Irrespective of whether she studies or works the cost of her accommodation is £7,000 and the food bill is £3,000. The opportunity cost of studying for the Masters degree is:
- A £12,000.
 - B £20,000.
 - C £32,000.
 - D £42,000.
- [1½]
- 3** If the cost of production increases and consumer income rises, the combined effect on the equilibrium price and quantity of an inferior good is:
- A indeterminate on price but quantity will fall.
 - B indeterminate on price but quantity will rise.
 - C indeterminate on quantity but price will rise.
 - D indeterminate on quantity but price will fall.
- [1½]
- 4** Wheat is an essential input in the production of pasta. An increase in the price of wheat would have an impact on the demand and supply of pasta by shifting the:
- A demand curve to the left.
 - B supply curve to the left.
 - C supply curve to the right.
 - D demand curve to the right.
- [1½]

5 Consumer A has a higher income than Consumer B but they have identical preferences and pay the same prices for the goods which they consume. If both consumers maximise utility then the marginal utility from each good consumed will be:

- A higher for A than for B and A will have a higher total utility.
- B higher for A than for B and A will have a lower total utility.
- C lower for A than for B and A will have a higher total utility.
- D lower for A than for B and A will have a lower total utility.

[1½]

6 A firm's decision to reduce its expenditure on advertising is most likely to have the following impact on its demand curve:

- A The curve will shift to the left and become less elastic.
- B The curve will shift to the right and become less elastic.
- C The curve will shift to the left and become more elastic.
- D The curve will shift to the right and become more elastic.

[1½]

7 Which of the following does NOT contribute to economies of scale?

- A Spreading of indivisibilities.
- B Spreading of overheads.
- C Dilution of ownership.
- D Specialisation.

[1½]

8 Assume that a firm has a fixed capital stock and variable units of labour as the only inputs into its production process. If increasing amounts of the variable labour input are added to the fixed factor, then according to the law of diminishing returns which of the following is FALSE?

- A The marginal physical product of labour reaches a maximum before the total physical product of labour.
- B The average physical product of labour continues rising as long as the marginal physical product is greater than the average physical product of labour.
- C The total physical product of labour is at a maximum when the marginal physical product of labour is zero.
- D The average physical product of labour is at a maximum when the marginal physical product of labour is zero.

[1½]

- 9** Which one of the following conditions indicates that a firm is operating in a perfectly competitive industry rather than a monopolistic industry?
- A Output of the firm is where marginal revenue equals marginal cost.
 - B The cost curves of the firm are U-shaped.
 - C Marginal revenue equals average revenue.
 - D The marginal cost curve cuts the average cost curve at its minimum point.
- [1½]
- 10** A profit maximising monopoly facing a linear demand schedule and with positive marginal costs will set its price in the region of the demand curve where the absolute price elasticity of demand is:
- A greater than unity.
 - B equal to zero.
 - C between zero and unity.
 - D unity.
- [1½]
- 11** In the kinked demand curve theory of oligopoly the:
- A marginal revenue curve and the average revenue curve both have a vertical section (discontinuity).
 - B marginal revenue curve has a vertical section (discontinuity).
 - C average revenue curve has a vertical section (discontinuity).
 - D marginal cost curve has a vertical section (discontinuity).
- [1½]
- 12** Which of the following is NOT a supply side economic policy aimed at promoting economic growth?
- A Cuts in social security benefits designed to encourage more people to work.
 - B Measures designed to reduce trade union powers.
 - C Deregulation.
 - D Tariffs designed to increase production of domestic goods.
- [1½]

13 “Supply creates its own demand” is also known as:

- A Gold’s law.
- B Austrian law.
- C Say’s law.
- D Quantity law.

[1½]

14 Which of the following will result in an improvement in the domestic country’s terms of trade?

- A A rise in the average price of imports relative to the average price of exports.
- B A fall in the quantity of imports relative to the quantity of exports.
- C A rise in the quantity of exports while imports remain the same.
- D A rise in the average price of exports relative to the average price of imports.

[1½]

15 Which of the following is an example of disequilibrium unemployment?

- A Frictional unemployment.
- B Cyclical unemployment.
- C Seasonal unemployment.
- D Structural unemployment.

[1½]

16 A country with a population of 38 million has 32 million in employment and 2 million unemployed. What is the unemployment rate?

- A 5.9%
- B 5.3%
- C 5.0%
- D 6.3%

[1½]

17 Which of the following is least likely to lead to an increase in long run economic growth?

- A An increase in the money supply.
- B An increase in capital investment expenditure.
- C An increase in education expenditure.
- D An increase in research and development expenditure.

[1½]

- 18** Which of the following is a potential source of cost push inflation?
- A A depreciation of the domestic currency.
 - B A decrease in imported commodity prices.
 - C An increase in consumer expenditure.
 - D A decrease in direct taxes.
- [1½]
- 19** Which of the following does NOT form part of a country's Gross Domestic Product?
- A Salaries of school teachers.
 - B Net income from abroad.
 - C Company profits.
 - D Investment expenditure.
- [1½]
- 20** Other things being equal, an increase in the level of real output in an economy will result in:
- A an increase in the money supply.
 - B a decrease in the money demand.
 - C a rise in the rate of interest.
 - D an increase in the speculative demand for money.
- [1½]
- 21** According to the quantity theory of money, a 10 per cent increase in the nominal money supply will lead to an increase in the real output level of the economy of:
- A 0 per cent.
 - B 10 per cent.
 - C 10 per cent multiplied by the velocity of circulation.
 - D 10 per cent divided by the velocity of circulation.
- [1½]
- 22** "Crowding out" describes the:
- A extent to which government expansionary policy is counteracted by lower private spending resulting from higher interest rates.
 - B extent to which government contractionary policy is counteracted by lower private spending resulting from lower interest rates.
 - C increase in interest rates caused by contractionary monetary policy.
 - D increase in consumption expenditure caused by lower taxes.
- [1½]

- 23** In the event of a recession in the economy, automatic fiscal stabilisers:
- A raise government expenditure and reduce tax revenue.
 - B raise government expenditure and raise tax revenue.
 - C reduce government expenditure and raise tax revenue.
 - D reduce government expenditure and reduce tax revenue.
- [1½]
- 24** Which one of the following is likely to be the most effective method of reducing the natural rate of unemployment?
- A Increase unemployment benefit.
 - B Increase taxes.
 - C Increase the money supply.
 - D Increase information flows on job availability.
- [1½]
- 25** Which of the following might explain why a country's aggregate demand curve might shift inwards to the left?
- A A decrease in interest rates.
 - B An appreciation of the domestic currency.
 - C A rise in government expenditure.
 - D An increase in business confidence.
- [1½]
- 26** Unanticipated inflation:
- A increases the opportunity cost of holding money and redistributes wealth from fixed rate borrowers to lenders.
 - B increases the opportunity cost of holding money and redistributes wealth from fixed rate lenders to borrowers.
 - C reduces the opportunity cost of holding money and redistributes wealth from fixed rate borrowers to lenders.
 - D reduces the opportunity cost of holding money and redistributes wealth from fixed rate lenders to borrowers.
- [1½]

- 27** (i) State, with the use of an example related to travelling to work, the difference between normal and inferior goods. [2]

The cross-price elasticity of two goods is negative and very large.

- (ii) (a) Explain what the statement above implies.
(b) Give two examples, associated with food products, which would fit this description.

[2]

[Total 4]

- 28** (i) Explain why a rational consumer may choose to hire a private taxi rather than travel by bus, given that hiring a private taxi is likely to cost more than taking a bus. [3]

- (ii) Draw a marginal utility curve and show the total utility, consumer surplus and total expenditure derived from travelling by private taxi. [2]

[Total 5]

- 29** (i) Explain what is meant by a fixed cost and a variable cost giving, for each, an example for a cafe. [2]

- (ii) Draw a fully labelled diagram to show the average fixed, average variable and average total cost curves for the cafe. Ensure you also include the marginal cost curve. [2]

- (iii) (a) Explain how a cafe may experience diminishing marginal returns.
(b) Show on the diagram from part (ii) the point at which the cafe begins to experience diminishing marginal returns, using the letter A.

[3]

[Total 7]

- 30** Explain the difference between structural and strategic barriers to entry in the retail banking sector. In your explanation you should give an example of each barrier. [4]

- 31** (i) Outline two examples of positive externalities in consumption which are likely to arise from an individual's education. [2]

- (ii) Outline two examples of negative externalities in consumption that are likely to arise from a music festival. [2]

[Total 4]

- 32** (i) Describe the law of diminishing returns. [1]
- (ii) Describe with the aid of a diagram the implications of the law of diminishing returns for the marginal physical product and average physical product curves. [2]
- (iii) Explain the relevance of the law of diminishing returns to the shape of the short run marginal and average cost curves. [2]
- [Total 5]

- 33** With a given amount of resources, two countries produce either Product A or Product B. There is constant opportunity cost and the table below shows the production possibilities for the two countries.

<i>Country</i>	<i>Product A (units)</i>	<i>Product B (units)</i>
X	50	20
Y	60	40

- (i) Calculate, for each country, the opportunity cost of each Product A and B. [2]
- (ii) State which country has a comparative advantage in the production of Product A. [1]
- (iii) State the range of exchange ratios which the countries could use to trade so that they both benefit from trade. [1]
- [Total 4]
- 34** Draw a fully labelled circular flow of income diagram, including the related injections and withdrawals. [4]
- 35** Describe two roles that financial intermediaries play in the economy. [4]
- 36** Discuss government measures that could be used to encourage the development of the electric car industry. [10]
- 37** (i) Discuss, with the use of examples, why private sector expenditure is linked to the business cycle. [5]
- (ii) Discuss the role of the financial sector in affecting the business cycle. [5]
- [Total 10]

END OF PAPER