

# INSTITUTE AND FACULTY OF ACTUARIES

## EXAMINATION

27 April 2011 (am)

### Subject CT7 — Business Economics Core Technical

*Time allowed: Three hours*

#### ***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 38 questions. From question 27 onwards begin each answer on a separate sheet.*
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.*

<p><i>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.</i></p>
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- 1** Which of the following statements below is always TRUE?
- A Opportunity cost is equal to total revenue minus total variable cost.
  - B Opportunity cost is constant.
  - C Opportunity cost is the cost in terms of the best foregone alternative.
  - D Opportunity cost is equal to a firm's supernormal profits.
- [1½]
- 2** Despite an increase in the minimum price of admission from £15.00 to £18.00, a football club finds that attendance at home matches increased by 20%. Which of the following could most effectively explain this situation?
- A Demand to watch football has a high price elasticity.
  - B Consumer preference has changed in favour of watching football.
  - C Demand to watch football has a very low price elasticity.
  - D The prices of alternative attractions have fallen.
- [1½]
- 3** If the demand and supply for a commodity both increase at each price, the market price will tend to:
- A rise.
  - B be indeterminate.
  - C fall.
  - D remain unchanged.
- [1½]
- 4** In a free market economy the basic function of the price mechanism is to:
- A provide a means of allocating resources.
  - B ensure that consumer wants are satisfied.
  - C enable the government to control prices.
  - D ensure the goods that society needs are produced.
- [1½]

- 5** If the government fixed a minimum price of bread above the equilibrium price and there was no further government intervention in the market for bread, which of the following would result?
- A There would be a surplus on the market and bread producers' income would fall.
  - B There would be an equilibrium in the market but the change in bread producers' income would be uncertain.
  - C There would be a shortage on the market and bread producers' income would rise.
  - D There would be a surplus on the market but the change in bread producers' income would be uncertain.

[1½]

- 6** If a firm increases its output and this results in an equal proportionate increase in its revenue, which of the following can be deduced about the price elasticity of demand for the firm's product?
- A It is  $-1$ .
  - B It is infinite elasticity.
  - C It is  $+1$ .
  - D It is zero elasticity.

[1½]

- 7** 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 it becomes to produce.
  - D The price of a good remains high over a given time period.

[1½]

- 8** Diminishing marginal utility of income implies:

- A people are risk lovers.
- B people are risk averse.
- C people are risk diversifiers.
- D people are risk neutral.

[1½]

- 9** 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 more inelastic.
  - 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 less inelastic.
- [1½]
- 10** In which situation will a firm cease production in the short run?
- A Total revenue is less than total costs.
  - B Total revenue is less than total fixed costs.
  - C Average revenue is less than average fixed cost.
  - D Average revenue is less than average variable cost.
- [1½]
- 11** Which assumption is essential for a market to be contestable?
- A Firms are free to enter and leave the market.
  - B Firms produce differentiated products.
  - C Firms cannot earn abnormal profits in the short run.
  - D There must be a large number of small firms.
- [1½]
- 12** Given that a firm's fixed costs are £1,000, the average total cost of its output is £4 and its average variable cost is £3.50, which one of the following will represent its total output per period?
- A 2,000 units.
  - B 1,750 units.
  - C 250 units.
  - D None of the above.
- [1½]
- 13** If firms in a perfectly competitive industry are making a loss in the short run then in the long run firms will:
- A increase their price and increase output.
  - B lower their price and increase output.
  - C increase their price and lower output.
  - D lower their price and lower output.
- [1½]

- 14** Which of the following is NOT usually given as a reason why firms form strategic alliances?
- A New markets
  - B Risk sharing
  - C Capital pooling
  - D Economies of scale
- [1½]
- 15** If the average price of exports has risen by 50% since the base year and the average price of imports has risen by 25% since the base year, what is the current figure for the terms of trade?
- A 75
  - B 120
  - C 125
  - D 150
- [1½]
- 16** Firms can benefit through specialisation and international trade due to:
- A comparative advantage.
  - B absolute advantage.
  - C different factor endowments.
  - D all of the above.
- [1½]
- 17** Which of the following could explain why a country's aggregate demand curve might shift inwards to the left?
- A A decrease in interest rates.
  - B A rise in exchange rates.
  - C A rise in government expenditure.
  - D An increase in business confidence.
- [1½]
- 18** If planned injections are less than planned withdrawals:
- A unemployment will fall.
  - B the balance of trade will tend to improve.
  - C inflation will tend to rise.
  - D national income will rise.
- [1½]

**19** Which of the following is an example of disequilibrium unemployment?

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

[1½]

**20** Given the following macroeconomic data:

Consumer expenditure	£70 million
Investment expenditure	£20 million
Government expenditure	£40 million
Exports	£20 million
Imports	£30 million
Net income from abroad	£10 million

What is the value of the Gross Domestic Product?

- A £150 million
- B £130 million
- C £120 million
- D £110 million

[1½]

**21** An economy with a floating exchange rate has a deficit on the current account of its balance of payments. Which policy combination would be most likely to solve this problem?

- A Decrease interest rates and increase income tax rates.
- B Increase interest rates and leave income tax rates unchanged.
- C Decrease interest rates and decrease income tax rates.
- D Increase interest rates and increase income tax rates.

[1½]

**22** Where would interest payments on short term foreign deposits in banks be entered on the balance of payments account?

- A Visible payments
- B Income flows
- C Portfolio investment
- D Direct investment

[1½]

- 23** The use of debit cards and cash withdrawal machines will have the following effect on a bank:
- A Lower the bank's liquidity ratio and increase the bank deposits multiplier.
  - B Increase the bank's liquidity ratio and lower the bank deposits multiplier.
  - C Lower the bank's liquidity ratio and leave the bank deposits multiplier unchanged.
  - D The effect on the bank's liquidity ratio and the bank deposits multiplier will be uncertain.
- [1½]
- 24** Which of the following would cause the demand for money curve to shift inwards to the left?
- A An increase in the frequency of payments to individuals.
  - B An increase in real Gross Domestic Product.
  - C A decrease in the rate of interest.
  - D An increase in prices.
- [1½]
- 25** The Bank of England's use of the "Taylor Rule" attempts to take which of the following two macroeconomic objectives into account?
- A Inflation and the exchange rate
  - B Economic growth and unemployment
  - C Inflation and economic growth
  - D Unemployment and the exchange rate
- [1½]
- 26** The overall money multiplier effect might be smaller than the full bank deposits multiplier because:
- A governments are pursuing an expansionary monetary policy.
  - B high rates of interest are discouraging borrowing.
  - C banks are not holding excess cash reserves.
  - D all proceeds of loans are re-deposited with banks.
- [1½]
- 27** Explain, using appropriate diagrams, why price elasticity of supply might be important to:
- (i) a government deciding whether to introduce a new sales tax. [3]
  - (ii) a business expecting a significant increase in demand for its product. [3]
- [Total 6]

- 28** (i) Draw a diagram to show a profit maximising monopoly in long run equilibrium. [2]
- (ii) Use this diagram to:
- (a) Identify “deadweight welfare loss”. [1]
- (b) Explain why this firm will produce a less than socially efficient level of output. [2]
- [Total 5]
- 29** Explain each of the following:
- (i) The law of diminishing marginal returns. [2]
- (ii) Diseconomies of scale. [2]
- [Total 4]
- 30** (i) Draw **one** fully labelled diagram to illustrate the long run equilibrium position of a firm under perfect competition and a firm under monopolistic competition. Assume that both firms have the same Long Run Average Total Cost Curve. [2]
- (ii) Identify, with reference to your diagram, the excess capacity relating to the firm in monopolistic competition. [1]
- (iii) Explain how, compared to perfect competition, the price and output decision under monopolistic competition affects the consumer. [1]
- [Total 4]
- 31** (i) Define and give an example of an external benefit of consumption. [2]
- (ii) Draw a fully labelled diagram to illustrate an external benefit of consumption. [2]
- [Total 4]



- 32** State the adjustments needed to:
- (i) obtain Gross Value Added at basic prices from Gross Domestic Product at market prices. [1]
  - (ii) obtain Gross National Income at market prices from Gross Domestic Product at market prices. [1]
  - (iii) obtain Net National Income at market prices from Gross National Income at market prices. [1]
  - (iv) obtain households' disposable income from Gross National Income at market prices. [2]
- [Total 5]

- 33** Identify and explain three functions of money. [3]

- 34** Each of the two countries A and B produce two products, bread and wine. Assume that before trade and with given resources, the alternatives shown in the table below can be produced by each country.

	<i>Wine</i>	<i>Bread</i>
Country A	10	20
Country B	4	16

- (i) Which country should specialise in the production of bread? [1]
  - (ii) Calculate the global production of bread and wine by both countries after complete specialisation. [1]
  - (iii) Select an appropriate terms of trade of units of bread for units of wine and demonstrate why both countries can be better off after specialisation and exchange. [3]
- [Total 5]
- 35**
- (i) Explain the difference between a tariff and a quota. [2]
  - (ii) State three arguments that can be used to support the introduction of barriers to trade. [3]
- [Total 5]

- 36** In an economy, an increase in aggregate expenditure of £120 million will cause an increase in the equilibrium level of Gross Domestic Product of £360 million.
- (i) Calculate the multiplier and the marginal propensity to consume domestically produced goods. [2]
- (ii) Explain the effect on the multiplier of:
- (a) a rise in consumer confidence.
- (b) an increase in income tax rate. [2]
- [Total 4]
- 37** Describe the factors that can restrict the ability of a business to expand. [6]
- 38** (i) Identify alternative types of supply side policy. [4]
- (ii) Discuss the effectiveness of supply side policies. [6]
- [Total 10]

**END OF PAPER**