

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

12 October 2015 (pm)

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. 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** Scarcity exists if:
- A prices are too high.
 - B human wants cannot be satisfied.
 - C there are shortages of some goods.
 - D markets are not perfectly competitive.
- [1½]
- 2** Which of the following statements is always TRUE?
- A Opportunity cost is constant.
 - B Opportunity cost is equal to total revenue minus total variable cost.
 - C Opportunity cost is equal to a firm's supernormal profits.
 - D Opportunity cost is the cost in terms of the best foregone alternative.
- [1½]
- 3** Which of the following will NOT cause a shift in the demand curve for Good X?
- A a change in consumer tastes
 - B a change in consumer incomes
 - C a change in the price of Good X
 - D a change in the price of other goods
- [1½]
- 4** If public transport is an inferior good, which of the following will cause its demand curve to shift to the left?
- A a rise in the price of cars
 - B an increase in the price of petrol
 - C an increase in consumers' incomes
 - D an increase in the price charged to use public transport
- [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 they both 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** Adverse selection refers to a situation where:
- A having insurance makes an individual less careful.
 - B having insurance makes an individual more careful.
 - C the individuals who take out insurance are those who pose the highest risk.
 - D the individuals who take out insurance are those who have the highest risk aversion.
- [1½]
- 7** Vertical product differentiation refers to differences between products which reflect:
- A same quality products.
 - B different varieties of the same product offered at the same price.
 - C different consumers' tastes but not different quality products.
 - D different quality products with different production costs.
- [1½]
- 8** A firm's fixed costs are £1,000 per period, 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 250 units
 - B 1,750 units
 - C 2,000 units
 - D None of the above
- [1½]
- 9** Increasing long run average costs are associated with:
- A constant returns to scale.
 - B increasing returns to scale.
 - C decreasing returns to scale.
 - D the law of diminishing returns.
- [1½]
- 10** The short run supply curve for a firm in a perfectly competitive industry is its:
- A average total cost curve.
 - B average variable cost curve.
 - C marginal cost curve above the lowest point of the average variable cost curve.
 - D marginal cost curve above the lowest point of the average total cost curve.
- [1½]

11 In the long run, profit maximising firms operating under conditions of monopolistic competition will produce at a level of output where price equals:

- A marginal cost.
- B average total cost.
- C average fixed cost.
- D average variable cost.

[1½]

12 Which of the following is NOT usually given as a reason why firms form strategic alliances?

- A risk sharing
- B entry into new markets
- C capital pooling
- D economies of scale

[1½]

13 Third degree price discrimination refers to the situation where:

- A different firms charge different prices for the same product.
- B a firm charges each customer the maximum price he/she is prepared to pay.
- C a firm charges customers different prices according to how much they purchase.
- D consumers are grouped into independent markets and a separate price is charged in each market.

[1½]

14 The short run Phillips curve shows:

- A the influence of fiscal policy on the level of inflation and unemployment.
- B the influence of monetary policy on the level of inflation and unemployment.
- C a negative relationship between inflation and unemployment.
- D a positive relationship between inflation and unemployment.

[1½]

- 15** Assume two countries, with the same level of technology and resources, do not presently trade. In Country X one unit of labour and one unit of capital can produce 20 units of Good A or 15 units of Good B. In Country Y one unit of labour and one unit of capital can produce 50 units of Good A or 25 units of Good B.

| <i>Country</i> | <i>Good A</i> | <i>Good B</i> |
|----------------|---------------|---------------|
| X | 20 | 15 |
| Y | 50 | 25 |

Which of the following is TRUE?

- A Country X has an absolute advantage in the production of Good A.
- B Country X has an absolute advantage in the production of Good B.
- C Country Y has a comparative advantage in the production of Good A.
- D Country Y has a comparative advantage in the production of Good B.

[1½]

- 16** The need to employ workers with certain skills may decline even if the industry as a whole is not in decline. This form of unemployment is called:

- A regional.
- B structural.
- C technological.
- D demand-deficient.

[1½]

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

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

[1½]

- 18** Which one of the following is NOT a cause of cost push inflation?

- A an appreciation of the exchange rate
- B an increase in the price of raw materials
- C an increase in profit margins applied by firms
- D an increase in wages above increases in labour productivity

[1½]

- 19** Assuming all other variables remain constant, a decrease in the average price level will result in a:
- A rise in the real wage rate.
 - B fall in the real interest rate.
 - C rise in the nominal wage rate.
 - D rise in the nominal interest rate.
- [1½]
- 20** Which one of the following will NOT happen following a devaluation of the domestic currency on the foreign exchange market?
- A Import volumes will increase.
 - B Export volumes will increase.
 - C Exports become less expensive when measured in the foreign currency.
 - D Imports become more expensive when measured in the domestic currency.
- [1½]
- 21** If the central bank has to intervene in the foreign exchange markets to prevent the home currency from appreciating, then its foreign exchange reserves will:
- A increase and the domestic money supply fall.
 - B increase and the domestic money supply rise.
 - C decrease and the domestic money supply fall.
 - D decrease and the domestic money supply rise.
- [1½]
- 22** The direct impact of open market operations, where the central bank purchases government securities, is to:
- A reduce the cash reserves of commercial banks and reduce the monetary base.
 - B reduce the cash reserves of commercial banks and increase the monetary base.
 - C increase the cash reserves of commercial banks and reduce the monetary base.
 - D increase the cash reserves of commercial banks and increase the monetary base.
- [1½]
- 23** Which of the following would cause the demand for money curve to shift inwards to the left?
- A an increase in prices
 - B a decrease in the rate of interest
 - C an increase in real Gross Domestic Product
 - D an increase in the frequency of payments to individuals
- [1½]

- 24** The adoption of an expansionary fiscal policy will result in:
- A an increase in aggregate demand, real output and unemployment.
 - B an increase in aggregate demand and a reduction in real output and unemployment.
 - C an increase in aggregate demand and real output and a reduction in unemployment.
 - D a reduction in aggregate demand and real output and an increase in unemployment.
- [1½]
- 25** The introduction of a restrictive monetary policy in an open economy operating with a flexible exchange rate would most likely lead to:
- A lower domestic interest rates and an exchange rate appreciation.
 - B lower domestic interest rates and an exchange rate depreciation.
 - C higher domestic interest rates and an exchange rate appreciation.
 - D higher domestic interest rates and an exchange rate depreciation.
- [1½]
- 26** “Crowding out” describes the:
- A increase in consumption expenditure caused by lower taxes.
 - B increase in interest rates caused by contractionary monetary policy.
 - C extent to which government expansionary policy is counteracted by lower private spending resulting from higher interest rates.
 - D extent to which government contractionary policy is counteracted by lower private spending resulting from lower interest rates.
- [1½]
- 27** Define the two branches of economics: macroeconomics and microeconomics. [2]
- 28** Explain why firms would prefer consumer demand to be inelastic, rather than elastic, following an increase in price. [4]

- 29** State the quadrant of the growth vector matrix which is relevant in each of the following cases:
- A firm has recently expanded into previously unexplored international markets.
 - A firm is in fierce competition with rivals to gain market share.
 - A firm introduces a new model of its product with additional features to the existing model.
- [3]
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- 30** A monopoly firm is making losses but has sufficient revenue to continue production in the short run.
- Draw a diagram to illustrate the short run profit maximising price and output for the firm.
- Label the diagram as follows:
- AC1 average cost curve, MC1 marginal cost curve
 - P1 price, Q1 quantity
 - AVC1 average variable cost curve, C1 average cost
 - MR1 marginal revenue curve, AR1 average revenue curve
- [4]
- Show the total loss on the diagram.
- [1]
[Total 5]
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- 31** Outline FIVE different forms of barriers to entry that enable monopolies to maintain their position as sole supplier to the market. [5]
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- 32** Explain with the use of appropriate examples the difference between first and second degree price discrimination. [4]
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- 33** Discuss who gains and who loses as markets become continually more globalised. [4]
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- 34** Describe FOUR of the costs of unanticipated inflation. [4]

- 35** Assume that initial deposits are £185 million and banks wish to hold 20% of deposits as cash.
- (i) Calculate the bank deposits multiplier. [1]
 - (ii) Calculate, showing all workings, the level that total deposits will eventually rise to and the total amount of credit created. [2]
 - (iii) Describe TWO complications that banks may experience in practice when seeking to create credit. [2]
- [Total 5]
- 36** (a) Explain, with reference to the dollar/sterling exchange rate, THREE factors in the UK economy which may lead to an appreciation of sterling.
- (b) Explain the likely impact on UK exports, imports and the rate of inflation following an appreciation of the dollar/sterling exchange rate. [5]
- 37** (i) Propose, with reasons, how the government could use economic measures to intervene in the market to encourage the population to follow a healthy diet. [5]
- (ii) Evaluate the effectiveness of the interventions you have described in part (i). [5]
- [Total 10]
- 38** (i) Describe, with the aid of a Keynesian 45° line diagram, the multiplier within the Keynesian model of aggregate expenditure. [5]
- (ii) Explain why some countries have a smaller multiplier than others. [5]
- [Total 10]

END OF PAPER