

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

30 September 2016 (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. *You have 15 minutes of planning and reading time before the start of this examination. You may make separate notes or write on the exam paper but not in your answer booklet. Calculators are not to be used during the reading time. You will then have three hours to complete the paper.*
4. *Mark allocations are shown in brackets.*
5. *Attempt all 37 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.*
6. *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 solution to the economic problem of deciding which goods to produce requires:
- A the establishment of freedom of entry and exit.
 - B the establishment of a system of market prices.
 - C a choice between the production of consumer goods and the sacrifice of alternatives.
 - D a decision to be made on the degree to which capital will be used in the production process rather than labour.
- [1½]
- 2** Opportunity cost is always:
- A constant.
 - B equal to a firm's supernormal profits.
 - C equal to total revenue minus total variable cost.
 - D the cost in terms of the best foregone alternative.
- [1½]
- 3** Which of the following statements explains how price, demand and supply respond to a surplus?
- A Price rises, quantity demanded falls and quantity supplied rises.
 - B Price rises, quantity demanded falls and quantity supplied falls.
 - C Price falls, quantity demanded rises and quantity supplied falls.
 - D Price falls, quantity demanded rises and quantity supplied rises.
- [1½]
- 4** Despite an increase in the price of admission from £15.00 to £18.00, a football club finds that attendance at matches increased by 20%. Which of the following could most effectively explain this situation?
- A The prices of alternative attractions have fallen.
 - B Demand to watch football has a high price elasticity.
 - C Demand to watch football has a low price elasticity.
 - D Consumer preference has changed in favour of watching football.
- [1½]
- 5** Diminishing marginal utility of income implies that individuals are:
- A risk lovers.
 - B risk averse.
 - C risk neutral.
 - D risk diversifiers.
- [1½]

- 6** 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]
- 7** Vertical product differentiation refers to differences between products which reflect:
- A same quality products.
 - B different quality products with different production costs.
 - C different consumers' tastes but not different quality products.
 - D different varieties of the same product offered at the same price.
- [1½]
- 8** Which of the following reveals constant returns to scale?
- A When the input of both capital and labour doubles, output doubles.
 - B When the input of both capital and labour doubles, output remains constant.
 - C When the ratio of labour to capital doubles, the output of the firm also doubles.
 - D When more labour is added to a given amount of capital, the marginal physical product of labour remains unchanged.
- [1½]
- 9** A firm that produces a main product and a by-product will maximise profits if it:
- A uses cost-based pricing for the main and the by-product.
 - B selects the combined output where the combined marginal cost equals the combined marginal revenue.
 - C decides on the viability of producing the by-product after it has made the decision to produce the main product.
 - D selects the level of output of the by-product where the marginal cost of the by-product equals its marginal revenue.
- [1½]

10 A perfectly competitive firm has fixed and variable costs of production. It produces output at the long-run profit maximising level. Which of the following statements is correct?

- A Marginal cost exceeds average total cost.
- B Marginal cost equals average variable cost.
- C Marginal cost exceeds average variable cost.
- D Marginal cost is less than average variable cost.

[1½]

11 Which of the following statements is FALSE?

- A Collusion may occur between firms in oligopolistic competition.
- B A firm in perfect competition faces a perfectly inelastic demand curve.
- C In monopolistic competition, supernormal profits cannot be made in the long run.
- D Price discrimination would allow the monopolist to produce the socially efficient level of output.

[1½]

12 Which of the following is NOT a barrier to entry in an oligopolistic industry?

- A Product proliferation.
- B Constant returns to scale.
- C Investment in spare capacity.
- D High advertising expenditure.

[1½]

13 When the owner of a patented product allows another firm to produce it for a fee, the arrangement is referred to as a:

- A merger.
- B franchise.
- C joint venture.
- D licensing agreement.

[1½]

- 14** If a resident of a country purchases a foreign company's shares, the value of the transaction is entered in which of the domestic country's balance of payments accounts?
- A trade account
 - B current account
 - C capital account
 - D financial account
- [1½]
- 15** 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]
- 16** Which one of the following is likely to be the most effective method of reducing the natural rate of unemployment?
- A increase the money supply
 - B increase unemployment benefit
 - C increase government expenditure
 - D increase information flows on job availability
- [1½]
- 17** Which of the following could explain why a country's aggregate demand curve might shift inwards to the left?
- A an appreciation of the domestic currency
 - B a decrease in interest rates
 - C a rise in government expenditure
 - D an increase in business confidence
- [1½]
- 18** The short run aggregate supply curves show that an increase in the average price level will encourage firms to:
- A reduce both output and employment.
 - B increase both output and employment.
 - C increase output and reduce employment.
 - D reduce output and increase employment.
- [1½]

- 19** The business cycle is defined as:
- A the long run trend path of output after removing short run variations.
 - B the periodic fluctuations of output around the long run trend.
 - C the annual cycle of output.
 - D none of the above.
- [1½]
- 20** Which of the following is a potential source of cost push inflation?
- A a decrease in direct taxes
 - B an increase in consumer expenditure
 - C a depreciation of the domestic currency
 - D a decrease in imported commodity prices
- [1½]
- 21** Which of the following does NOT form part of a country's Gross Domestic Product?
- A company profits
 - B investment expenditure
 - C net income from abroad
 - D salaries of school teachers
- [1½]
- 22** If private savings exceeds private investment by £300 million and government expenditure on goods and services exceeds government tax revenue by £200 million then net exports will be:
- A zero.
 - B +£100 million.
 - C -£100 million.
 - D +£500 million.
- [1½]

- 23** Consider an economy where the demand for real money balances and the demand for investment are both highly interest elastic. A change in the money supply will give:
- A a relatively small change in both the rate of interest and the level of investment.
 - B a relatively large change in both the rate of interest and the level of investment.
 - C a relatively large change in the rate of interest and a relatively small change in the level of investment.
 - D a relatively small change in the rate of interest and a relatively large change in the level of investment.

[1½]

- 24** Which one of the following statements about the demand for money is TRUE?

- A The demand for money is negatively related to the interest rate.
- B The demand for money is negatively related to wealth.
- C The demand for money is negatively related to the general price level.
- D The demand for money is negatively related to real income.

[1½]

- 25** 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]

- 26** An increase in government expenditure financed by government borrowing from the non-bank private sector is most likely to:
- A reduce the demand for money, reduce interest rates and cause investment to rise.
 - B increase the demand for money, reduce interest rates and cause investment to rise.
 - C reduce the demand for money, increase interest rates and cause investment to fall.
 - D increase the demand for money, increase interest rates and cause investment to fall.
- [1½]
- 27** (i) Describe the difference between uncertainty and risk. [1]
- (ii) Describe, with the use of an example, how firms might seek to reduce uncertainty. [3]
- [Total 4]
- 28** Explain, with examples, TWO forms of product differentiation that a car manufacturer may use to differentiate its product from competitors. [4]
- 29** (i) Draw a diagram with a downward sloping demand curve, to show the short run shut down point. Label average cost as AC, average variable cost as AVC and average revenue as AR. [4]
- (ii) Describe the difference between the short run and long run shut down points. [2]
- [Total 6]
- 30** Describe TWO financial constraints and TWO non-financial constraints to a firm's growth. [4]
- 31** (i) Describe the term "loss leader" and the main factor that a firm should consider in using a "loss leader" as a successful pricing strategy. [2]
- (ii) Discuss how a sports clothing store may use a successful "loss leader" pricing strategy. [2]
- [Total 4]

- 32** (i) Describe, with the use of an example, an external benefit of production. [2]
(ii) Draw a diagram to illustrate the external benefits of production. [3]
[Total 5]
- 33** Describe, with the use of a diagram, the economic cost of imposing an import tariff. [6]
- 34** Define, in relation to the national income accounting framework, the following terms:
(a) gross national income
(b) depreciation (or capital consumption)
(c) net national income [3]
- 35** Outline how a central bank may intervene in the foreign exchange market in order to reduce short-term fluctuations in the exchange rate. [5]
- 36** Discuss, with the use of supply and demand diagrams, how each of the following scenarios may influence the price and equilibrium quantity of housing within the market. Each scenario should be discussed separately.
(i) an increase in interest rates [4]
(ii) an expected rise in future house prices [3]
(iii) an increase in the rate of taxation for house builders [3]
[Total 10]
- 37** (i) Describe, with the use of a diagram, the difference between equilibrium and disequilibrium unemployment. [4]
(ii) Recommend, giving reasons, suitable supply and demand policy interventions to reduce the following types of unemployment within an economy:
(a) structural
(b) frictional
(c) cyclical [6]
[Total 10]

END OF PAPER