

INSTITUTE AND FACULTY OF ACTUARIES



EXAMINATION

3 October 2017 (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. *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 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.*
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** Which of the following statements defines adverse selection in relation to insurance?
- A Adverse selection describes the fact that people who know that they are a particularly bad risk are more inclined to take out insurance.
 - B Adverse selection describes the fact that a policyholder may act in a way which makes the insured event more likely to occur.
 - C Adverse selection describes the fact that people who know that they are a particularly bad risk are less inclined to take out insurance.
 - D Adverse selection describes the risk that an insurance company will face false insurance claims.
- [1½]

- 2** Which of the following is NOT usually given as a reason why firms form strategic alliances?
- A entry into new markets
 - B risk sharing
 - C capital pooling
 - D to reduce overall managerial remuneration
- [1½]

- 3** Third degree price discrimination refers to the situation where:
- A a firm charges customers different prices according to how much they purchase.
 - B consumers are grouped into independent markets and a separate price is charged in each market.
 - C a firm charges each customer the maximum price that he/she is prepared to pay.
 - D different firms charge different prices for the same product.
- [1½]

- 4** Good X has a cross elasticity of demand with respect to Good Y which is equal to minus unity (i.e. -1). Good X is which of the following with respect to Good Y?
- A a perfect substitute
 - B an imperfect substitute
 - C a perfect complement
 - D an imperfect complement
- [1½]
- 5** Which of the following is NOT a characteristic of an inferior good?
- A The income elasticity of demand is negative.
 - B The income elasticity of demand is between zero and one.
 - C The demand for the good increases as income falls.
 - D The demand will rise if its price falls.
- [1½]
- 6** 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]
- 7** Which of the following is NOT a motive for advertising by an existing firm in an industry?
- A to make the demand for the product more price elastic
 - B to shift the demand for the firm's product to the right
 - C to increase barriers to entry
 - D to increase sales and so help the firm exploit economies of scale
- [1½]

- 8** Which of the following statements about short run costs of production is FALSE?
- A Marginal cost cannot exceed average total cost.
 - B Marginal cost is equal to average variable cost when average variable cost is at a minimum.
 - C Average fixed cost always falls as output rises.
 - D Average total cost exceeds average variable cost by an amount that declines with increasing output.
- [1½]

- 9** A firm that produces a main product and a by-product will maximise profits if it:
- A decides on the viability of producing the by-product after it has made the decision to produce the main product.
 - B selects the level of output of the by-product where marginal cost of the by-product equals its marginal revenue.
 - C selects the combined output where the combined marginal cost equals the combined marginal revenue.
 - D uses cost-based pricing for the main product and the by-product.
- [1½]

- 10** Which of the following statements is FALSE?
- A In monopolistic competition, supernormal profits cannot be made in the long run.
 - B Price discrimination is impossible under perfect competition.
 - C Collusion may occur between firms in oligopolistic competition.
 - D A firm in perfect competition faces a perfectly inelastic demand curve.
- [1½]

- 11** When a monopolist maximises profits, price exceeds marginal revenue. The difference between price and marginal revenue occurs 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 the additional unit.
 - D the law of diminishing returns directly affects the price of an imperfectly competitive firm's product.
- [1½]
- 12** Which one of the following characteristics applies to an oligopolistic market structure?
- A There is a large number of firms.
 - B There is an absence of barriers to entry into the market.
 - C Demand for each firm is infinitely price elastic.
 - D The output decisions of one firm may exert a significant influence on other firms in the industry.
- [1½]
- 13** An implicit or explicit agreement amongst firms in an industry NOT to compete with each other is known as:
- A the dominant firm hypothesis.
 - B collusion.
 - C non-cooperative oligopoly.
 - D product differentiation.
- [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 one of the following will occur, assuming spare capacity within the economy, if both government spending and the money supply are increased:
- A national income and interest rates will both rise
 - B national income and interest rates will both fall
 - C the effect on both national income and interest rates is uncertain
 - D national income will rise but the effect on interest rates is uncertain
- [1½]
- 16** Which one of the following is NOT a “crowding out” effect resulting from a fiscal expansion?
- A a fall in investment due to the associated rise in the interest rate
 - B a fall in consumer demand due to the fear of higher future taxes
 - C reduced import expenditure due to increased government demand for domestically produced goods
 - D a fall in demand for exports due to an exchange rate appreciation as a result of the associated rise in the interest rate
- [1½]
- 17** The socially efficient output for a monopoly is at the point where:
- A the marginal cost curve cuts the marginal revenue curve.
 - B the marginal cost curve cuts the demand curve.
 - C the average cost curve cuts the marginal revenue curve.
 - D the average cost curve cuts the demand curve.
- [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** A government's attempts to increase the monetary base (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]
- 20** The nominal rate of interest is 2% and the expected rate of inflation is positive at 3%. Which one of the following is TRUE?
- A The real rate of interest is positive.
 - B The expected rate of inflation is less than the real rate of interest.
 - C The real rate of interest is greater than the nominal rate of interest.
 - D The real rate of interest is -1%.
- [1½]

- 21** All other things being equal, which of the following events would cause the value of Country A's currency to appreciate against the value of Country B's currency?
- A a fall in the interest rate of Country A with an even bigger fall in Country B's interest rate
 - B a fall in the interest rate of Country A with constant interest rate in Country B
 - C a rise in the interest rate of Country A with an even bigger rise in Country B's interest rate
 - D a fall in the interest rate of Country A with a rise in the interest rate of Country B

[1½]

- 22** If the central bank has to intervene in the foreign exchange markets to prevent the domestic currency from appreciating, then its foreign exchange reserves will:

- A decrease and the domestic money supply will rise.
- B decrease and the domestic money supply will fall.
- C increase and the domestic money supply will rise.
- D increase and the domestic money supply will fall.

[1½]

- 23** The unemployment rate, expressed as a percentage, is given by the number of unemployed divided by:

- A the total population.
- B the total labour force.
- C the number of employed.
- D the number in the population who are of working age.

[1½]

- 24** If unemployment is above the natural level, the long run Phillips curve would suggest that, other things remaining the same, real wages would:
- A fall and unemployment would rise.
 - B fall and unemployment would fall.
 - C rise and unemployment would fall.
 - D rise and unemployment would rise.
- [1½]
- 25** The Phillips curve shows that:
- A the higher the level of prices, the lower will be the rate of unemployment.
 - B the higher the rate of inflation, the lower will be the rate of unemployment.
 - C the lower the level of prices, the lower will be the rate of unemployment.
 - D the higher the rate of inflation, the higher will be the rate of unemployment.
- [1½]
- 26** Which of the following does NOT form part of a country's Gross Domestic Product (GDP)?
- A salaries of school teachers
 - B net income from abroad
 - C company profits
 - D investment expenditure
- [1½]
- 27** (a) State the factors of production that exist within an economy.
- (b) Describe how scarcity arises in the context of these factors.
- [3]
- 28** Explain the factors that are likely to influence house prices. [5]

- 29** (i) Explain why a government favours placing a sales tax on goods that have a relatively price inelastic demand. [1]
- (ii) Show on a diagram, the producers' and consumers' share of the tax burden. [3]
[Total 4]
- 30** Explain the reasons why the utility you gain from a refrigerator is uncertain. [4]
- 31** Explain how and why the marketing mix would differ for a designer handbag and peanut butter. [6]
- 32** (i) Determine the value of the multiplier if government expenditure increases by £50 million and GDP rises by £120 million. [1]
- (ii) (a) Calculate the marginal propensity to consume (mpc_d) if the change in domestic consumption is £85 million and the increase in GDP is £106 million.
- (b) Calculate the size of the multiplier given the mpc_d calculated in part (ii)(a). [3]
[Total 4]
- 33** Explain the reasons why two mobile phone companies may seek to merge. [5]
- 34** State TWO arguments for and TWO arguments against globalisation. [2]
- 35** (i) Describe the difference between the claimant unemployment count and the standardised unemployment rate. [2]
- (ii) Explain which measure of unemployment a government might prefer to use if the government were coming up to an election. [2]
[Total 4]

- 36** Banks in country X operate a simple liquidity ratio of 15%. Initially \$150 million is deposited with banks. Assume that the public do not hold any cash.

- (i) Prepare a table showing:

	<i>\$m</i>		<i>\$m</i>
Banks receive	150	Retain	.....
		Lend	.....
Second round deposits rise by	.....	Retain	.....
		Lend	.....
Third round deposits rise by	.....	Retain	.....
		Lend	.....
Fourth round deposits rise by	.....	Retain	.....
		Lend	.....

[4]

- (ii) Determine how much credit will have been created after four rounds. [1]

- (iii) Calculate the total value that deposits will eventually reach. [1]

[Total 6]

- 37** Microbeads are small plastic particles which are used in many cosmetics and cleaning products. Research has shown that these particles have found their way into the water supply and are causing environmental damage.

- (i) Assess, with the use of a diagram, how the use of microbeads will result in a deadweight welfare loss to society. [4]

- (ii) Evaluate TWO appropriate forms of government intervention that could be used to reduce the production or consumption of products containing microbeads.

[Total 10]

- 38** Assess, using aggregate demand/aggregate supply (AD/AS) diagrams, the likely impact on real GDP, employment and the price level given the following events which should be treated separately:

- (a) a decrease in government expenditure on health care
(b) a rise in the price of oil

[8]

END OF PAPER