

# EXAMINATIONS

27 April 2004 (am)

## Subject 107 — Economics

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

***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 Actuarial Tables and your own electronic calculator.</i></p> |
|--|

*For questions 1–26 indicate in your answer booklet which one of the answers A, B, C or D is correct.*

- 1** The economic problem of HOW a good shall be produced (the capital-labour mix) is solved in capitalist societies:
- A through the purchasing decisions made by consumers in the market place for the final good produced
  - B by means of the profit motive which prompts producers to keep their production costs to a minimum
  - C purely by comparing the cost of capital relative to the cost of labour.
  - D by the use of relatively capital intensive methods of production
- [1½]
- 2** Which one of the following will shift the supply curve for good X to the right?
- A A decrease in labour productivity in industry X.
  - B A fall in the price of raw materials used to produce good X.
  - C An increase in real wages in industry X.
  - D A government sales tax on the production of good X.
- [1½]
- 3** A maximum price is set for good X at £30 which happens to coincide with the free market price. An increase in the supply of good X keeping the maximum price fixed at £30 will lead to:
- A no change in price and a surplus
  - B no change in price and a shortage
  - C a fall in price and a fall in the quantity sold
  - D a fall in price and a rise in quantity sold
- [1½]
- 4** Good Y has a positive cross price elasticity of demand with respect to good X of 0.5 and 100 units of good Y are demanded when good X costs 20 pence. A rise in the price of good X to 30 pence will lead to a change in the demand for good Y to:
- A 150 units
  - B 125 units
  - C 75 units
  - D 50 units
- [1½]

- 5** 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 consumers' incomes.
  - C An increase in the price of petrol.
  - D An increase in the price charged to use public transport.
- [1½]

- 6** You have the following data on the price of good X and the quantity sold of good X. If the market price is set at £12 what is the total value of consumer surplus?

| <i>Price of good X</i> | <i>Quantity of good X sold</i> |
|------------------------|--------------------------------|
| £15                    | 1                              |
| £14                    | 2                              |
| £13                    | 3                              |
| £12                    | 4                              |
| £11                    | 5                              |

- A £48
  - B £4
  - C £5
  - D £6
- [1½]

- 7** Which one of the following is NOT a characteristic of a normal good?
- A It has a positive income elasticity of demand.
  - B A price fall will lead to an increase in demand.
  - C The substitution and income effects of a price change work in opposite directions.
  - D The substitution effect of a price rise works to reduce demand for the good.
- [1½]

- 8** Which one of the following characteristics applies to an oligopolistic market structure?
- A There is a large number of firms.
  - B The absence of barriers to entry into the market.
  - C Demand is infinitely price elastic.
  - D The output decisions of one firm may exert a significant influence on other firms in the industry.
- [1½]

- 9** The kinked demand curve model of oligopoly is based upon the assumption that:
- A a firm's competitors match both its price increases and price reductions
  - B one firm in the industry sets the price for all other firms
  - C a firm's competitors match its price reductions but not its price increases
  - D the price charged by the firm can either rise or fall depending on what happens to its competitors' prices
- [1½]

- 10** Which one of the following is NOT a feature of perfect competition?
- A In the long run firms make only normal profits.
  - B Price is equal to marginal cost.
  - C Price is equal to average revenue.
  - D Firms can unilaterally raise their price without losing all their customers.
- [1½]

- 11** A profit maximising monopoly facing a linear demand schedule and with zero marginal costs will set his price in the region of the demand curve where the absolute price elasticity of demand is:
- A greater than unity but finite
  - B equal to zero
  - C between zero and unity
  - D unity
- [1½]

- 12** A managing director of a monopoly firm with constant marginal costs has the following data:

|                       |       |
|-----------------------|-------|
| Average revenue       | = £14 |
| Marginal revenue      | = £10 |
| Marginal cost         | = £8  |
| Average variable cost | = £8  |
| Average total cost    | = £12 |

To maximise profits/minimise losses in the short run the firm should:

- A reduce price and increase output
- B reduce price and reduce output
- C increase price and increase output
- D close down

[1½]

- 13** Which one of the following is TRUE?
- A The long run average total cost curve passes through the minimum point of all the short run average total cost curves.
  - B The minimum efficient scale is the point at which long run average costs must begin to fall.
  - C In the long run a firm cannot alter its fixed costs of production.
  - D If a firm trebles all its inputs and its output doubles then this is indicative of diseconomies of scale. [1½]

- 14** The following transactions take place in a simple closed economy. A company producing good X sells its output for £1 million. In producing good X the company buys raw materials for £400,000, uses £100,000 worth of electricity and depreciates capital equipment to the value of £200,000. What is the contribution of the company to the country's Gross Domestic Product?
- A £600,000
  - B £500,000
  - C £400,000
  - D £300,000 [1½]

- 15** In an open economy with a government sector, which one of the following conditions will ensure an equilibrium level of output in the Keynesian model?

Where:

$C$  = planned consumption,  $S$  = planned savings,  $I$  = planned investment,  $T$  = taxation,  $G$  = government expenditure,  $B$  = transfer payments,  $M$  = import expenditure,  $X$  = export receipts.

- A  $S + T + M = I + G + B + X$
- B  $S + T + M = I + C + B + X$
- C  $S = I$
- D none of the above [1½]

- 16** In a simple closed economy with no government sector the consumption function relating consumption ( $C$ ) to national income ( $Y$ ) is given by the expression:

$$C = \text{£}20 \text{ million} + 0.8Y$$

Planned investment is constant at £50 million.

Which one of the following is TRUE?

- A The multiplier has a value of 4.
- B An increase in the level of national income will raise the average propensity to consume.
- C The economy is in equilibrium when national income is £300 million.
- D None of the above.

[1½]

- 17** In a simple closed economy with no government sector which one of the following statements about the consumption function is TRUE?

- A The consumption function describes the relationship between aggregate consumption and the price level.
- B The consumption function describes all equilibrium levels of income where planned savings and planned investment are equal.
- C The consumption function has a slope equal to the average propensity to consume.
- D The consumption function has a slope equal to the marginal propensity to consume.

[1½]

- 18** One way of reducing the natural level of unemployment would be to increase:

- A unemployment benefit
- B government consumption expenditure
- C information on job availability
- D the money supply

[1½]

- 19** If an increase in the level of the money supply results in no change in either the nominal or real value of national income, then which of the following is TRUE?
- A Interest rates must have risen.
  - B The velocity of circulation must have fallen.
  - C The price level must have risen by the same proportion as the increase in the money supply.
  - D Taxes must have risen.
- [1½]

- 20** Assuming all other variables remain constant, a decrease in the average price level will result in a:
- A fall in the real interest rate
  - B fall in the nominal wage rate
  - C rise in the real wage rate
  - D rise in the nominal interest rate
- [1½]

- 21** The following table contains output and expenditure data for an economy.

*£ billions*

|  |     |
|--|-----|
| Consumption (at market prices)         | 260 |
| Investment (at market prices)          | 70  |
| Government spending (at market prices) | 85  |
| Net Exports (at market prices)         | –5  |
| Net Property income from abroad        | 5   |
| Taxes on production                    | 60  |

Gross Domestic Product at market prices and Gross National Product at factor cost are respectively:

- A 415, 420
  - B 410, 355
  - C 415, 355
  - D 410, 415
- [1½]
- 22** If nominal Gross National Product (GNP) per capita is £10,000 and the GNP deflator (base year 100) is 250 then real GNP per capita is:
- A £7,500
  - B £2,500
  - C £4,000
  - D £12,500
- [1½]

- 23** Which one of the following statements about real variables in the economy is FALSE?
- A Real interest rates are negative if the anticipated rate of inflation exceeds the nominal rate of interest.
  - B If all else is constant, a rise in money wages is also a rise in real wages.
  - C An increase in real income will lead to a reduced demand for real money balances.
  - D None of the above.
- [1½]
- 24** Which of the following is a possible explanation for an increase in the average price level and a decrease in real national income?
- A An increase in short run aggregate supply.
  - B A decrease in short run aggregate supply.
  - C An increase in aggregate demand.
  - D A decrease in aggregate demand.
- [1½]
- 25** Which one of the following is most likely to be the best method of reducing long term structural unemployment?
- A Expansionary fiscal policy.
  - B Expansionary monetary policy.
  - C A reduction in trade union powers.
  - D Better education and training.
- [1½]
- 26** Which one of the following is NOT likely to lead to cost push inflation?
- A An increase in trade union powers.
  - B An appreciation of the domestic currency's exchange rate.
  - C An increased budget deficit which causes interest rates to rise.
  - D An increase in the profit margins applied by firms.
- [1½]



**27** List FOUR factors that increase the price elasticity of demand for a product. [4]

**28** Consider the following data for a perfectly competitive firm, where the market price for the commodity is £30:

| <i>Output<br/>per week</i> | <i>Total<br/>Cost (£'s)</i> |
|----------------------------|-----------------------------|
| 0                          | 5                           |
| 1                          | 45                          |
| 2                          | 78                          |
| 3                          | 99                          |
| 4                          | 114                         |
| 5                          | 132                         |
| 6                          | 162                         |
| 7                          | 210                         |

- (i) Construct a table showing the marginal cost and average variable cost at each level of output. [2]
  - (ii) State the profit maximising level of output of the firm. [1]
  - (iii) Calculate the profit at the profit maximising level of output. [1]
- [Total 4]

- 29**
- (i) Explain the difference between the law of diminishing returns and the law of diminishing marginal utility. [2]
  - (ii) Draw a marginal product curve for good X that you would expect from the laws of increasing and diminishing returns. Clearly indicate on the curve a region of negative marginal product. [1]
  - (iii) Draw a marginal utility curve for good X that you would expect from the law of diminishing marginal utility. Indicate on the curve a region of negative marginal utility. [1]
- [Total 4]

- 30** Draw a diagram showing a profit maximising monopolist making supernormal profit at its profit maximising output. Ensure that the firm has constant average costs at all levels of output. Make sure that you include the following curves with the labels as in the parentheses: marginal revenue (MR), average revenue (AR), marginal cost (MC) and average cost (AC). Mark the price P1, quantity Q1 and average cost C1. [4]

- 31** Discuss the key factor that distinguishes monopolistic competition from perfect competition and the implications for the demand curve facing the individual firm in each market structure. [4]
- 32** Explain the meaning of the following words when used in economics.
- (i) resources [2]
  - (ii) scarce [1]
  - (iii) allocation [2]
- [Total 5]
- 33** Explain how the introduction of the following controls will affect prices, quantity supplied and quantity demanded, and whether the outcome will be a surplus or a shortage of goods supplied.
- (i) A price ceiling set below the free market price. [2]
  - (ii) A price floor set above the free market price. [2]
- [Total 4]
- 34** (i) Define “economies of scale” and “diseconomies of scale”. [2]
- (ii) List FOUR reasons for economies of scale. [2]
- [Total 4]
- 35** (i) Using the IS-LM diagram explain the effects of a contractionary open market operation on the money supply, the short term rate of interest and the level of national income. [2]
- (ii) Using the IS-LM diagram explain the effects of an expansionary fiscal policy financed by bond sales on the money supply, the long term rate of interest and the level of national income. [2]
- [Total 4]

- 36** You are given the following data on Country A's international transactions for the year 2003 with the rest of the world (ROW):

*£ millions*

|  |     |
|--|-----|
| Exports of goods and services                  | 180 |
| Imports of goods and services                  | 150 |
| Interest, Profits, Dividends received from ROW | 30  |
| Interest, Profits and Dividends paid to ROW    | 50  |
| Unilateral receipts from ROW                   | 20  |
| Unilateral payments to ROW                     | 40  |
| Capital inflows from ROW                       | 80  |
| Capital outflows to ROW                        | 40  |
| Statistical error                              | ?   |
| Increase in official reserves                  | 25  |

- (i) Calculate the current account balance indicating whether it is in surplus(+) or deficit(−). [1]
- (ii) Calculate the statistical error indicating whether it is positive(+) or negative(−). [1]
- (iii) State whether the increase in official reserves indicates that the Central Bank has been buying or selling (a) foreign currency (b) sterling, in the foreign exchange market. [1]
- (iv) State with reasons whether or not it is possible to calculate the trade balance amounts from the above set of figures. [1]
- [Total 4]

- 37**
- (i) Discuss the view that the best way for a country to tackle a current account deficit is to devalue its currency. In your answer, discuss what other macroeconomic policy measures may be used to reduce a current account deficit. [10]
- (ii) Discuss the possible advantages that adherence to a fixed exchange rate regime may have over a floating exchange rate regime. [10]
- [Total 20]

**END OF PAPER**