

EXAMINATIONS

9 September 2003 (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.

In addition to this paper you should have available Actuarial Tables and your own electronic calculator.

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

- 1** A minimum price is set for Good X at £12 which happens to coincide with the free market price. Keeping the minimum price fixed at £12, an increase in the demand for good X will lead to:
- A no change in price and a shortage
 - B a rise in price and a shortage
 - C a rise in price and a surplus
 - D a rise in price and quantity sold
- [1½]
- 2** Good Y has a cross elasticity of demand with respect to Good X of 0.5 and 100 units of Good Y are demanded when Good X costs 60 pence. A rise in the price of Good X to 90 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]
- 3** Consider the budget line of a consumer that consumes only two goods X and Y, with the quantity of Good X represented on the horizontal axis and the quantity of Good Y represented on the vertical axis. If real income and the price of Good Y are held constant, a rise in the price of Good X will:
- A shift the entire budget line to the left
 - B shift the entire budget line to the right
 - C make the budget line steeper
 - D make the budget line less steep
- [1½]
- 4** Which of the following is true for total utility and marginal utility as consumption of a good increases?
- A Total utility is increasing and marginal utility is increasing.
 - B Total utility is increasing and marginal utility is decreasing.
 - C Total utility is decreasing and marginal utility is increasing.
 - D Total utility is decreasing and marginal utility is decreasing.
- [1½]

- 5 Which of the following is NOT TRUE of a risk averse person?
- A A risk averse person chooses a course of action designed to maximise expected utility.
 - B A risk averse person will tend to reject a fair gamble.
 - C A risk averse person will be unwilling to pay more for insurance than the long run average value of claims which will be made.
 - D A risk averse person will be willing to pay more for insurance than the long run average value of claims which will be made. [1½]

- 6 Which one 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 costs 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]

- 7 Consider the following table:

<i>Units of Labour</i>	<i>Units of Capital</i>	<i>Output</i>
1	1	100
2	2	190
3	3	270
4	4	340
5	5	400

The table illustrates which of the following?

- A The law of diminishing marginal returns.
- B Increasing returns to scale.
- C Constant returns to scale.
- D Decreasing returns to scale. [1½]

- 8** Each of the following is a characteristic of monopolistic competition. Which one is NOT a characteristic of oligopoly?
- A Each firm faces a downward-sloping demand curve.
 - B Firms are profit-maximisers.
 - C The sales of one firm will not have a significant effect on other firms.
 - D There is more than one firm in the industry. [1½]
- 9** All the following, except one, describe both monopoly and perfect competition. Which does not?
- A Both may make supernormal profits in the short run.
 - B Both determine output by equating marginal cost and marginal revenue.
 - C Both reduce output if marginal cost exceeds marginal revenue.
 - D Both face a perfectly elastic demand curve. [1½]
- 10** A movement along a consumer's indifference curve from right to left implies that:
- A a consumer's utility will be unchanged
 - B a consumer's money income will be unchanged
 - C a consumer's utility will rise
 - D a consumer's utility will fall [1½]
- 11** When personal income taxes are progressive then, for an individual, as income increases:
- A the marginal tax rate will be less than the average tax rate
 - B the marginal tax rate will be greater than the average tax rate
 - C the marginal tax rate will be equal to the average tax rate
 - D the marginal tax rate will initially be less than, but eventually greater than, the average tax rate [1½]
- 12** Which of the following types of unemployment would exist even in a well functioning economy:
- A classical unemployment
 - B frictional unemployment
 - C technological unemployment
 - D structural unemployment [1½]

- 13** In the circular flow of income model:
- A savings, taxes and investment are leakages
 - B exports, imports and government expenditure are leakages
 - C investment, government expenditure and exports are injections
 - D investment, exports and consumption are injections [1½]
- 14** Assume that the total output of goods and services is held constant and the price level increases. Which one of the following observations concerning Gross Domestic Product (GDP) is FALSE?
- A Nominal GDP rises.
 - B Real GDP remains constant.
 - C Nominal GDP rises while real GDP falls.
 - D Nominal GDP changes by more than real GDP. [1½]
- 15** The accelerator principle implies that:
- A investment is determined by the rate of change of national income
 - B national income is determined by the rate of change of investment
 - C investment is increased when interest rates fall
 - D national income is increased when interest rates fall [1½]
- 16** Which one of the following situations will lead to the most crowding out following an increase in government expenditure?
- A The demand for money is interest elastic and private investment is interest inelastic.
 - B The demand for money is interest inelastic and private investment is interest elastic.
 - C The demand for money and private investment are both interest inelastic.
 - D The demand for money and private investment are both interest elastic. [1½]

- 17** The direct impact of open market operations, where the central bank purchases government securities is to:
- A increase the cash reserves of commercial banks and increase the monetary base
 - B increase the cash reserves of commercial banks and reduce the monetary base
 - C reduce the cash reserves of commercial banks and increase the monetary base
 - D reduce the cash reserves of commercial banks and reduce the monetary base
- [1½]
- 18** Which of the following is NOT a cost of inflation?
- A menu costs
 - B shoe-leather costs
 - C arbitrary redistribution of wealth from lenders to borrowers
 - D arbitrary redistribution of wealth from borrowers to lenders
- [1½]
- 19** Which of the following statements best characterises the views of a monetarist?
- A In the long term unemployment can be reduced by an expansionary fiscal policy.
 - B In the long term unemployment can be reduced by an expansionary monetary policy.
 - C In the long term unemployment can be reduced by increasing efficiency and productivity.
 - D In the long term unemployment can be reduced but only at the cost of a higher rate of inflation.
- [1½]
- 20** The law of comparative advantage states that countries should specialise in producing and exporting the goods that they produce at a lower:
- A marginal cost than other countries
 - B absolute cost than other countries
 - C total cost than other countries
 - D opportunity cost than other countries
- [1½]

- 21** The terms of trade index may be defined as:
- A the ratio of the index of import prices to the index of export prices
 - B the ratio of the index of export prices to the index of import prices
 - C the ratio of the quantity of imports to the quantity of exports
 - D the ratio of the quantity of exports to the quantity of imports [1½]
- 22** Which of the following would NOT be included in the current account of the United Kingdom's balance of payments?
- A Property income from abroad.
 - B The purchase of shares in a UK company by foreign investors.
 - C Interest and dividends paid to the rest of the world.
 - D Exports of services. [1½]
- 23** Other things being equal, which one of the following statements is always TRUE?
- A An appreciation of a country's exchange rate will increase its import volumes and decrease its export volumes.
 - B An appreciation of a country's exchange rate will increase its import expenditure and decrease its export revenues.
 - C A depreciation of a country's exchange rate will decrease its import volumes and decrease its export volumes.
 - D A depreciation of a country's exchange rate will decrease its import expenditure and increase its export revenues. [1½]
- 24** The marginal propensity to consume in an open economy with no government sector is 0.9. Planned investment is £100 billion and exports are £15 billion. The equilibrium level of national income is:
- A £103.5 billion
 - B £115 billion
 - C £1150 billion
 - D indeterminable from the information given [1½]

- 25** Assume that the United Kingdom interest rate is 10% per annum and the United States interest rate is 5% per annum. What is the expected annual movement in the dollar-pound exchange rate?
- A The dollar is expected to depreciate by 2%.
 B The dollar is expected to appreciate by 2%.
 C The dollar is expected to appreciate by 5%.
 D The dollar is expected to depreciate by 5%. [1½]

- 26** Which of the following is least likely to lead to an increase in long run economic growth?
- A An increase in the money supply.
 B An increase in capital investment expenditure.
 C An increase in education expenditure.
 D An increase in research and development expenditure. [1½]

- 27** A small manufacturing company sells cameras. At present total costs of production vary with output as follows:

<i>Output</i>	<i>Total Cost (£)</i>
0	200
10	650
20	1000
30	1300
40	1600
50	2000
60	2500

The relationship between quantity demanded and price is given by the equation:

$$Q = 150 - 2P$$

Where:

Q = quantity demanded

P = price

- (i) For each level of output in the table, calculate the following (round all figures to the nearest pound (£)):
- (a) Average Total Cost
 (b) Average Revenue
 (c) Marginal Cost
 (d) Marginal Revenue [4]
- (ii) From the table select the profit-maximising level of output. [1]

[Total 5]

28 Read both parts (i) and (ii) of the question before answering.

- (i) Draw a diagram to show a firm in a monopolistically competitive industry making normal profits. Label the diagram as follows: AC — average cost curve, MC — marginal cost curve, MR — marginal revenue curve, AR — average revenue curve, P — price and Q — quantity. [2]
- (ii) State, *but do not show on the diagram*, the short and long run effects of a fall in the fixed costs of production facing all firms in the industry. [2]
[Total 4]

29 Workers in two countries A and B can produce shoes and computers. The annual productivity of a worker in each country is given in the table below.

<i>Country</i>	<i>Computers</i>	<i>Shoes</i>
A	5,000	10,000
B	200	5,000

- (i) State which country has a comparative advantage in the production of computers. [1]
- (ii) State which country has a comparative advantage in the production of shoes. [1]
- (iii) Explain whether international trade would take place between the two countries if the terms of trade were 10 shoes per computer. [2]
[Total 4]

30 (i) Define the following:

- (a) own price elasticity of demand
- (b) cross price elasticity of demand
- (c) income elasticity of demand
- (d) own price elasticity of supply [2]

- (ii) State two factors which affect income elasticity of demand. [2]
[Total 4]

31 Outline two difficulties encountered in placing a **value** on measures of national income. [4]

32 Outline four actions a government could take to reduce an adverse trade balance. [4]

33 You are given the following data on an economy:

Consumption expenditure	= £50 million + 0.8 Y_d
Taxation	= 0.25 Y
Investment	= £120 million
Government Expenditure	= £280 million
Exports	= £150 million
Imports	= 0.2 Y

where Y = national income, and Y_d = disposable national income.

- (i) Calculate the equilibrium level of national income. [2]
 - (ii) Calculate the current account deficit as a percentage of the national income at the equilibrium level of national income. [1]
 - (iii) Calculate the budget deficit as a percentage of the national income at the equilibrium level of national income. [1]
- [Total 4]

34 You are given the following information:

c = the ratio of cash held by the public to their deposits

r = the bank's reserve ratio (cash to deposits)

where:

$$c = 0.6$$

$$r = 0.2$$

- (i) Calculate the value of the monetary base when the broad money supply is £600 million. [1]
 - (ii) Calculate the value of the broad money supply when the monetary base is £200 million. [1]
 - (iii) What would be the percentage effect on the broad money supply of an increase in the monetary base of 10%? [1]
 - (iv) Calculate the value of the broad money supply if the monetary base were £200 million and the banks were to reduce their reserve ratio from 0.2 to 0.1 while the proportion of deposits held by the public as cash fell to 0.5. [1]
- [Total 4]

- 35** (i) Explain the difference between a fixed and a floating exchange rate regime. [2]
- (ii) List two advantages of fixed exchange rates and two advantages of floating exchange rates. [2]
[Total 4]
- 36** Explain briefly:
- (i) the law of diminishing marginal returns [2]
- (ii) diseconomies of scale [2]
[Total 4]
- 37** (i) Discuss the conditions needed for a perfectly competitive market to exist. [10]
- (ii) Assess the welfare advantages of perfect competition compared with monopoly and use this to comment on the assertion that “monopolies are bad for society”. [10]
[Total 20]