

EXAMINATIONS

2 April 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** Which one of the following is true of a negatively sloped linear demand curve?
- A It becomes more elastic as price rises.
 - B It become more inelastic as price rises.
 - C It has a constant elasticity throughout its entire length.
 - D It switches from positive to negative elasticity as price rises. [1½]
- 2** If Good X is a Giffen good then an increase in income will cause a:
- A rightward shift of the demand curve for Good X.
 - B leftward shift of the demand curve for Good X.
 - C movement along the demand curve for Good X from left to right.
 - D movement along the demand curve for Good X from right to left. [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 quantity of Good Y represented on the vertical axis. If money income is increased and there is a fall in the price of Good X while the price of Good Y remains the same then the budget line will shift to the:
- A left and become steeper
 - B left and become less steep
 - C right and become steeper
 - D right and become less steep [1½]
- 4** A monopolist increases his sales from 7 units to 8 units by reducing the price of his product from £20 to £18. The marginal revenue from the 8th unit sold is:
- A £18
 - B £4
 - C –£2
 - D –£4 [1½]
- 5** Which one of the following conditions indicates that a firm is operating in a perfectly competitive industry rather than a monopolistic industry?
- A Output of the firm is where marginal revenue equals marginal cost.
 - B The cost curves of the firm are U-shaped.
 - C Marginal revenue equals average revenue.
 - D The marginal cost curve cuts the average cost curve at its minimum point. [1½]

- 6 What will be the consequence of an increase in a firm's fixed costs of production on the firm's marginal costs?
- A Marginal cost will increase by more than fixed cost.
 - B Marginal cost will increase by the same amount as fixed cost.
 - C Marginal cost will increase but by less than fixed cost.
 - D Marginal cost will remain unchanged. [1½]
- 7 Which one of the following relationships between marginal product and average product is always TRUE?
- A If marginal product is greater than average product then average product must fall.
 - B If marginal product is greater than average product then average product must rise.
 - C If marginal product is positive then average product must rise.
 - D If marginal product is falling then average product must be falling. [1½]
- 8 If a minimum guaranteed price is set for Good X above the equilibrium price for Good X this will result in:
- A an increase in demand for Good X
 - B a decrease in supply of Good X
 - C excess supply of Good X
 - D excess demand for Good X [1½]
- 9 The price of Good X is half the price of Good Y. A consumer spends all his income on the two goods. Which one of the following conditions is met when the consumer maximises utility?
- A The marginal utility of Good X is double the marginal utility of Good Y.
 - B The ratio of the quantity of Good X to the quantity of Good Y is double the ratio of the price of Good X to the price of Good Y.
 - C The marginal utility of Good X is half the marginal utility of Good Y.
 - D The total utility of Good X is twice the total utility of Good Y. [1½]

- 10** Which one of the following is TRUE:
- A Diseconomies of scale means that the ratio of inputs to outputs rises as output rises.
 - B Economies of scale means that the ratio of inputs to outputs rises as output rises.
 - C In the long run a firm cannot alter its fixed costs of production.
 - D Constant returns to scale means that if a firm doubles its inputs then output remains constant. [1½]
- 11** Which one of the following statements about market structure is FALSE?
- A Under perfect competition, in the long run all firms make only normal profits.
 - B Firms under monopolistic competition produce homogeneous products.
 - C Under oligopoly, firms make decisions taking into account the possible reactions of their competitors.
 - D Under monopoly, a profit maximising firm with positive marginal costs always produces in the region of price elastic demand. [1½]
- 12** Which one of the following is an example of moral hazard?
- A A person will not take out an insurance policy because they object to the investment policy of the insurance company.
 - B A person takes out an insurance policy but lies on the insurance policy form.
 - C A person who is insured against theft makes a false claim.
 - D A person who takes out an insurance policy is more careless with the insured goods than if they had not taken out an insurance policy. [1½]

- 13** Adverse selection describes the fact that people who know that they are particularly:
- A bad risks are more inclined to take out insurance than those who know that they are good risks. High premiums should be charged to all policyholders.
 - B good risks are more inclined to take out insurance than those who know that they are bad risks. Appropriate premiums should be charged to all policyholders.
 - C bad risks are more inclined to take out insurance than those who know that they are good risks. Appropriate premiums should be charged to all policyholders.
 - D good risks are more inclined to take out insurance than those who know that they are bad risks. Low premiums should be charged to all policyholders. [1½]
- 14** Assume that the total output of goods and services is held constant and the general price level increases. Which one of following observations concerning Gross Domestic Product (GDP) is FALSE?
- A Nominal GDP increases.
 - B Real GDP remains constant.
 - C Nominal GDP changes by more than real GDP.
 - D Nominal GDP changes by less than real GDP. [1½]
- 15** If an economy experiences an unplanned increase in its inventories (stocks of goods) then:
- A Gross Domestic Product will have increased.
 - B Recorded investment will have increased.
 - C Producers' desired level of inventories is more than the actual level.
 - D Total expenditure in the economy is greater than the value of total output produced. [1½]

- 16** According to Keynesian analysis, once a closed economy is in macroeconomic equilibrium such that planned savings equals planned investment then:
- A there will be no unemployment in the economy
 - B the marginal propensity to consume must be greater than the marginal propensity to save
 - C consumption will be equal to or greater than income
 - D there may or may not be unemployment [1½]
- 17** You are given the following data for an economy:
- | | |
|---------------------------------|-------------|
| Consumer Expenditure | £80 million |
| Investment | £20 million |
| Government Expenditure | £40 million |
| Exports | £20 million |
| Imports | £30 million |
| Net Property Income from abroad | £10 million |
- What is the value of its Gross Domestic Product?
- A £130 million
 - B £140 million
 - C £150 million
 - D £160 million [1½]
- 18** The monetary base is £200 billion, the public's cash to deposit ratio is 0.5 and the broad money supply is £400 billion. This means that the reserve ratio of the banking system (cash to deposits) is:
- A 2
 - B 0.25
 - C 0.5
 - D 1 [1½]
- 19** Which one of the following statements about the demand for money is FALSE?
- A The demand for money is negatively related to the interest rate.
 - B The demand for money is positively related to nominal income.
 - C The demand for money is negatively related to the general price level.
 - D The demand to hold money is positively related to real income. [1½]

- 20** An increase in the general price level with no change in the money supply will:
- A Raise aggregate demand and increase real money balances.
 - B Raise aggregate demand and decrease real money balances.
 - C Lower aggregate demand and increase real money balances.
 - D Lower aggregate demand and decrease real money balances. [1½]
- 21** Which one of the following statements is NOT associated with the monetarist argument concerning the so called “vertical” long run Phillips curve?
- A At a given rate of unemployment there will be a unique rate of inflation.
 - B If the actual rate of unemployment is above the natural rate, then we would expect to observe a decrease in the rate of wage and price inflation.
 - C If the actual rate of unemployment is below the natural rate of unemployment, then we would expect to observe an increase in wage and price inflation.
 - D In the long run, the government can influence the rate of inflation. [1½]
- 22** The level of consumption in a closed economy with no government sector is 80% of national income and planned investment is £50 billion. The equilibrium level of national income is:
- A £400 billion
 - B £250 billion
 - C £40 billion
 - D indeterminate from the information given [1½]
- 23** The IS curve for a closed economy shows different combinations of the rate of interest and level of national income for which the sum of:
- A savings and taxation equals the sum of investment plus government expenditure
 - B savings and taxation equals the sum of consumption plus government expenditure
 - C savings and taxation equals the sum of consumption plus investment expenditure
 - D savings and investment equals the sum of consumption plus government expenditure [1½]

- 24** A country has a government budget deficit of £200 million, private sector investment of £100 million and private sector savings of £150 million. The current account position of the country is:
- A £250 million in deficit
 - B £150 million in deficit
 - C £50 million in surplus
 - D £150 million in surplus
- [1½]
- 25** Which one 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 fiscal expenditure aimed at exploiting the fiscal multiplier effect.
- [1½]
- 26** Which one of the following statements about real variables in the economy is FALSE?
- A If all else is constant, a rise in money wages is also a rise in real wages.
 - B Real interest rates are negative if the rate of inflation exceeds the nominal rate of interest.
 - C Real interest rates are negative if the rate of inflation is negative.
 - D If nominal Gross Domestic Product (GDP) rises by 10 per cent and the GDP deflator rises by 5 per cent then real GDP has risen.
- [1½]
- 27** Read all parts of the question before answering.
- A consumer has an income of £200 which can be spent either on Good X or on Good Y. Good X costs £20 per unit and Good Y costs £10 per unit. Good X is a Giffen good and Good Y is a normal good. Draw a single diagram to show:
- (i) The budget line for the consumer. Label the quantities of Good X and Good Y at the points where the budget line meets the Good X (horizontal) and Good Y (vertical) axes. [1]
 - (ii) An indifference curve for Good X and Good Y at a point where the consumer is maximising satisfaction. Label the curve A, the quantity of X consumed as X_1 and quantity of Y consumed as Y_1 . [1]

- (iii) The effect on the budget line of a fall in the price of Good X to £10 per unit. Label the quantities of Good X and Good Y at the points where the budget line meets the Good X and Good Y axes. [1]
- (iv) A new indifference curve for Good X and Good Y on the new budget line drawn in part (iii) at a point where the consumer is maximising his satisfaction. Label this new curve B, the quantity of X consumed as X2 and quantity of Y consumed as Y2. [1]
[Total 4]

28 Consider the following options A to E. Each option relates to an individual firm operating under a certain market structure in the short run.

<i>OPTION</i>	<i>Marginal cost</i>	<i>Average cost</i>	<i>Average revenue</i>	<i>Marginal revenue</i>
A	25	20	20	10
B	20	20	20	20
C	24	18	24	24
D	15	18	20	15
E	9	14	20	14

- (i) State ALL the options that indicate the firm is not seeking to maximise its profits nor minimise its losses. [1]
- (ii) State ALL the options that indicate that the firm is making excess profits. [1]
- (iii) State ALL the options that indicate that the firm could increase its output and increase its profits. [1]
- (iv) State ALL the options which could correspond to the firm operating in a long run perfectly competitive environment. [1]
[Total 4]

29 Draw a diagram to illustrate the short run profit maximising price and output for a monopolistic competitor firm making losses but with sufficient revenue to continue production in the short run. Label the diagram as follows:

AC1 — average cost curve	P1 — price
MC1 — marginal cost curve	Q1 — quantity
AVC1 — average variable cost curve	CI — average cost
MR1 — marginal revenue curve	C2 — average variable cost
AR1 — average revenue curve	

[4]

- 30** The world consists of two countries A and B and the only factor of production is labour. In Country A it takes 40 hours to produce one unit of Good X and 10 hours to produce one unit of Good Y. In Country B it takes 50 hours to produce one unit of Good X and 25 hours to produce one unit of Good Y.
- (i) State which country has a comparative advantage in producing Good X. [1]
 - (ii) Calculate the opportunity cost of producing Good X in country A. [1]
 - (iii) Explain whether mutually advantageous international trade would be possible between the two countries if the terms of trade were 3 units of Good Y for 1 unit of Good X. [2]
- [Total 4]
- 31**
- (i) Draw a diagram showing a real money supply curve (labelled MS1), a real money demand curve (labelled MD1) and the interest rate (labelled r_1) that clears the money market. Show how an increase in the real money supply to MS2 would affect the market rate of interest in the short run. [3]
 - (ii) State how an increase in the real money supply through open market operations will affect the price of Treasury bills. [1]
- [Total 4]
- 32** The government in a closed economy undertakes expenditure on goods and services of £60 billion, investment expenditure is £20 billion. The rate of direct taxation is 20 percent of all income. The consumption function is given by the equation:
- $$C = 0.75 Y_d$$
- Where Y_d is disposable income (national income less taxes)
- (i) Calculate the equilibrium level of national income. [1]
 - (ii) Calculate the level of national income where the government has a balanced budget. [1]
 - (iii) Calculate the required budget deficit to achieve the full employment level of national income of £350 billion. [2]
- [Total 4]

- 33** (i) Using an IS/LM diagram briefly explain the likely effects of a fiscal contraction on both the domestic interest rate and the level of economic activity. [2]
- (ii) Using a second IS/LM diagram briefly explain the likely effects of a monetary contraction on both the domestic interest rate and the level of economic activity. [2]
[Total 4]
- 34** (i) Explain briefly the concepts of voluntary and involuntary unemployment. [2]
- (ii) Outline two reasons which might explain why some people choose to be voluntarily unemployed on a long term basis. [2]
[Total 4]
- 35** (i) Outline how the national debt may be linked to this year's fiscal deficit and how a rising national debt can impact on next year's fiscal deficit. [2]
- (ii) Outline why it is that countries with a high national debt tend to have to pay a higher rate of interest, other things being equal, than countries with a low national debt. [3]
[Total 5]
- 36** State the effects of an appreciation of the exchange rate of a country on its:
- (i) import volumes [1]
- (ii) inflation rate as measured by a consumer price index made up of domestic produced and imported goods [1]
- (iii) export volumes [1]
- (iv) export earnings measured in the domestic currency. [1]
[Total 4]

- 37** (i) Discuss the differences between a market structure characterised by monopolistic competition and one characterised by monopoly. In your answer refer to both the short and the long run.

(No diagrams are required in your answer.) [10]

- (ii) Explain the effects of a per unit sales tax on Good X on the producers of Good X, the consumers of Good X and the government tax revenues. Discuss any net welfare effects for society as a whole.

Illustrate your answer using a diagram and discuss the welfare implications using the concepts of consumer and producer surplus. [10]

[Total 20]