

EXAMINATIONS

April 1999

Subject B — Economics and Finance

Paper One

Time allowed: Three hours

INSTRUCTIONS TO THE CANDIDATE

1. *Write your surname in full, the initials of your other names and your Candidate's Number on the front of the answer booklet.*
2. *Begin your answers to Parts One, Two and Three on a separate sheet.*
3. *Mark allocations are shown in brackets.*
4. *Attempt all 37 questions.*

Graph paper is not required for this paper.

AT THE END OF THE EXAMINATION

Hand in BOTH your answer booklet and this question paper.

<p><i>In addition to this paper you should have available Actuarial Tables and an electronic calculator.</i></p>
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PART ONE

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

- 1** Which of the following would shift the demand curve for Good X (a normal good) to the right?
- A A decrease in the price of a substitute good.
 - B A decrease in the price of a complementary good.
 - C A decrease in consumers income.
 - D A decrease in the price of Good X. [1½]
- 2** Which of the following goods will have an income elasticity of demand which is greater than 1?
- A A luxury good.
 - B A necessity good.
 - C An inferior good.
 - D A Giffen good. [1½]
- 3** Which of the following statements correctly explains how price and quantity adjust to eliminate a surplus?
- A Price will fall, quantity demanded will rise and quantity supplied will rise.
 - B Price will fall, quantity demanded will rise and quantity supplied will fall.
 - C Price will rise, quantity demanded will fall and quantity supplied will rise.
 - D Price will rise, quantity demanded will rise and quantity supplied will fall. [1½]
- 4** If the cross elasticity of demand between Goods X and Y is negative then:
- A Goods X and Y are substitutes.
 - B Goods X and Y are complements.
 - C Goods X and Y are both inferior goods.
 - D Goods X and Y are both Giffen goods. [1½]

5 Consumer A spends all his income on Good X or Good Y and Good X is three times the price of Good Y. At present his marginal utility from Good X is 10 units and his marginal utility from Good Y is 5 units. He could increase total utility by consuming:

- A more of Good X and more of Good Y
 - B more of Good X and less of Good Y
 - C less of Good X and less of Good Y
 - D less of Good X and more of Good Y
- [1½]

6 Which of the following statements is relevant to the distinction between the short run and the long run in the production process?

- A Labour input is fixed in the short run but variable in the long run.
 - B Labour input is variable in the short run but fixed in the long run.
 - C Capital input is fixed in the short run but variable in the long run.
 - D Capital input is variable in the short run but fixed in the long run.
- [1½]

7 Given the following data, at what levels of employment are the average product and marginal products of labour at a maximum?

<i>Labour</i> (Units per day)	<i>Output</i> (Units per day)
0	0
1	5
2	14
3	22
4	28
5	33

- A Average product at 2 units of labour and marginal product at 1 unit of labour.
 - B Average product at 3 units of labour and marginal product at 2 units of labour.
 - C Average product at 4 units of labour and marginal product at 3 units of labour.
 - D Average product at 5 units of labour and marginal product at 4 units of labour
- [1½]

- 8** Which of the following statements is TRUE?
- A The difference between average total cost and average variable cost at each level of output is marginal cost.
 - B The difference between average total cost and average variable cost at each level of output is total fixed cost.
 - C The difference between average total cost and average variable cost at each level of output is constant.
 - D The difference between average total cost and average variable cost at each level of output is average fixed cost.
- [1½]
- 9** In the long run a firm in a monopolistic competition market structure will produce at:
- A the lowest point on its average total cost curve.
 - B a point where average total cost is rising.
 - C a point where average total cost is falling.
 - D a point where average total cost is equal to marginal cost.
- [1½]
- 10** In the kinked demand curve theory of oligopoly the:
- A marginal revenue curve and the average revenue curve both have a discontinuity.
 - B marginal revenue curve has a discontinuity.
 - C average revenue curve has a discontinuity.
 - D marginal cost curve has a discontinuity.
- [1½]
- 11** Investor A is indifferent between investment 1 which would give a certain return of £12,000 and investment 2 which will give a return of £18,000 with a probability of 0.5 or £6,000 with a probability of 0.5, investor A is:
- A risk-loving
 - B risk-neutral
 - C risk-averse
 - D not a utility maximiser
- [1½]

- 12** Which of the following does NOT necessarily apply to a perfectly competitive firm producing in both the short run and the long run?
- A The firm will equate its marginal costs to its average revenue.
 - B The firm will equate its marginal costs to its marginal revenue.
 - C The firm will have an average revenue that exceeds its average variable costs of production.
 - D The firm will make only normal profits. [1½]
- 13** Which of these statements reflects consistency on the part of the consumer ?
- A If apples are preferred to pears then pears are preferred to oranges.
 - B If apples are preferred to pears and pears are preferred to oranges then oranges are preferred to apples.
 - C If apples are preferred to pears and pears are preferred to oranges then apples are preferred to oranges.
 - D If apples are preferred to pears and apples are preferred to oranges then pears are preferred to oranges. [1½]
- 14** In the circular flow model of an economy:
- A Consumption expenditure is equal to disposable income.
 - B Investment + Government Expenditure + Imports = Savings + Taxation + Exports
 - C The economy is assumed to operate at full employment.
 - D Households receive income from producers and supply factors of production. [1½]
- 15** If Country A has a disposable national income of £200 million and consumer expenditure is £160 million then its:
- A marginal propensity to consume must be 0.8
 - B marginal propensity to save must be 0.8
 - C average propensity to consume must be 0.8
 - D average propensity to save must be 0.8 [1½]

- 16** According to Keynesian theory, if real gross domestic product (GDP) exceeds planned aggregate expenditure then inventories (stocks) will:
- A rise and GDP will fall
 - B rise and GDP will rise
 - C fall and GDP will fall
 - D fall and GDP will rise
- [1½]
- 17** If the money supply increases due to an expansionary open market operation by the central bank then the price of Treasury bills will:
- A fall as the short term interest rate falls
 - B fall as the short term interest rate rises
 - C rise as the short term interest rate falls
 - D rise as the short term interest rate rises
- [1½]
- 18** Consider an economy where the demand for real money balances is interest elastic and the demand for investment is interest inelastic. A change in the money supply will result in a relatively:
- A small change in the rate of interest and the level of investment
 - B large change in the rate of interest and the level of investment
 - C small change in the rate of interest and a relatively large change in the level of investment
 - D large change in the rate of interest and a relatively small change in the level of investment
- [1½]
- 19** Other things being equal in an economy with zero economic growth, if the expected rate of inflation upon which wage settlements are based is 4% per annum and the money supply is increasing at 2% per annum there will be a short run:
- A fall in inflation and fall in unemployment
 - B fall in inflation and rise in unemployment
 - C rise in inflation and fall in unemployment
 - D rise in inflation and rise in unemployment
- [1½]
- 20** The Phillips curve shows that the:
- A higher the level of prices, the lower will be the rate of unemployment
 - B higher the rate of inflation, the lower will be the rate of unemployment
 - C lower the level of prices, the lower will be the rate of unemployment
 - D higher rate of inflation, the higher will be the rate of unemployment
- [1½]

- 21** 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 interest rate of Country A with a rise in the interest rate of Country B.
- [1½]
- 22** Which one of the following propositions is advocated by monetarists as a "neutral" monetary policy designed to avoid inflation or deflation.
- A The rate of growth of the money stock should be the same as the rate of growth of the demand for money.
 - B There should be no increase in the money supply.
 - C The rate of growth of the money stock should be set at a rate no greater than the previous year's inflation rate.
 - D The rate of growth of the money stock should be set at the same rate as the increase in the velocity of circulation of money in the economy.
- [1½]
- 23** In a closed economy with no government sector realised savings are always equal to realised investment because:
- A planned savings are always equal to planned investment
 - B changes in the rate of interest will occur to equate the two
 - C changes in the level of national income will occur to equate the two
 - D there will be unplanned changes in the levels of stocks of goods
- [1½]
- 24** According to the accelerator principle investment expenditure will:
- A fluctuate more than consumer expenditure
 - B rise when the long term rate of interest falls
 - C accelerate if business confidence picks up
 - D accelerate if the government increases its capital expenditure
- [1½]

- 25** Which of the following describes the difference between the fiscal deficit and the national debt?
- A The national debt is owed to foreigners while the fiscal deficit is owed to domestic residents.
- B The national debt is a stock concept while the fiscal deficit is a flow concept.
- C The national debt is smaller than the fiscal deficit.
- D The national debt is financed by Treasury bill sales while the fiscal deficit is financed by Treasury bond sales. [1½]
- 26** In an open economy the current account is in deficit by £200 million, savings are £600 million, government expenditure is £500 million and taxation is £600 million. It follows that investment expenditure is:
- A £300 million
- B £500 million
- C £700 million
- D £900 million [1½]

PART TWO

- 27** Consider the following data for a profit maximising firm producing Good X in the short run.

<i>Output Per Week</i>	<i>Total Cost (£'s)</i>	<i>Total Revenue (£'s)</i>
0	30	0
1	40	50
2	46	70
3	48	84
4	50	94
5	60	100
6	72	102

- (i) Construct a table showing the total variable cost and marginal revenue at each level of output. [2]
- (ii) Calculate the profit maximising price and output for the firm. [2]
- [Total 4]

- 28** The demand for a good is given by the following equation where Qd is the quantity demanded and P is the price in pounds.

$$Qd = 30 - 2P$$

- (i) State whether the price elasticity of demand is elastic or inelastic over the following price ranges.
- (a) Between $P = £3$ and $P = £4$
(b) Between $P = £8$ and $P = £9$ [2]
- (ii) What is the price elasticity of demand when the firm maximises its total revenue? [1]
- (iii) At what price will the firm maximise its total revenue? [1]
- [Total 4]

- 29** Read all parts of the question before answering. Use only one diagram to answer all parts of the question. There is no need to draw indifference curves in your answer to any part of this question.

A consumer has an income of £800 which can be used to purchase Good X or Good Y or some combination of the two goods. Good X costs £25 per unit and Good Y initially costs £40 per unit but Good Y subsequently increases to £80 per unit. Good X is a normal Good and Good Y is a Giffen good.

- (i) Use the above information to draw two budget lines for the consumer, labelling the quantities of Good X and Good Y at the points where the budget lines meet the quantity of Good X and Good Y axes. Label the budget line before the rise in the price of Good Y as B1 and the budget line after the rise in the price of Good Y as B2. [1]
- (ii) On the budget line B1 mark a point A showing the consumer's utility maximising consumption of Goods X and Y for the initial set of prices and indicate the quantity of Good X and Y consumed as X1 and Y1 respectively. [1]
- (iii) On the budget line B2 mark a point B showing the consumer's utility maximising consumption of Goods X and Y following the increase in the price of Good Y and indicate the quantity of Good X and Good Y consumed as X2 and Y2 respectively. [1]
- (iv) Assume that the price of Good X also now rises to £50 while Good Y remains at £80, draw a new budget line B3 labelling the quantities of Good X and Good Y where the budget line meets the quantity of Good X and Good Y axes. Mark on the budget line B3 a point C showing the consumer's utility maximising consumption of Goods X and Y and indicate the quantity of Good X and Good Y consumed as X3 and Y3 respectively. [2]

[Total 5]

- 30** (i) Draw a diagram to illustrate the profit maximising equilibrium for a firm that operates in an industry characterized by monopolistic competition making super normal profits. Mark the relevant curves as AR1 for average revenue, MR1 for marginal revenue, MC1 for marginal cost and AC1 for average cost. Indicate the average cost C1, and the profit maximising price and output P1 and Q1 respectively. [2]
- (ii) Explain with reasoning whether the price and output of a perfectly competitive firm with an identical costs curve structure to that of a monopolistically competitive firm would be higher, lower or the same in the long run. [2]
- [Total 4]

31 Suppose that labour is the only factor of production in countries A and B. In Country A, production of 1 unit of Good X requires 5 hours of labour input and 1 unit of Good Y requires 10 hours of labour input. In country B, production of 1 unit of Good X requires 4 hours of labour input and 1 unit of Good Y requires 5 hours of labour input.

- (i) Which country has a comparative advantage in producing Good X? [1]
- (ii) What is the opportunity cost of producing a unit of Good Y in country A? [1]
- (iii) What good will Country B export to Country A according to the principle of comparative advantage? [1]
- (iv) Which of the following are valid terms of trade between the two countries at which they will both benefit from trade? [1]
- (a) 2.5 units of Good X for 1 unit of Good Y
 (b) 1.5 units of Good X for 1 unit of Good Y
 (c) 1 units of Good X for 1 unit of Good Y
 (d) 0.5 units of Good X for 1 unit of Good Y
 (e) none of the above
- [Total 4]

32 You are given the following national accounting data for Country A.

	<i>£ billions</i>
Consumers expenditure (excluding taxes and subsidies)	80
Government expenditure on good/services	50
Transfer payments	20
Investment expenditure	30
Import expenditure	40
Exports expenditure	25
Subsidies	15
Indirect taxes	20
Capital depreciation	5
Net property income from abroad	20

- (i) Calculate the Gross Domestic Product at market prices. [1]
 - (ii) Calculate the Gross Domestic Product at factor cost. [1]
 - (iii) Calculate the Gross National Product at factor cost. [1]
 - (iv) Calculate the Net National Product at market prices. [1]
- [Total 4]

33 This question concerns a simple closed economy with no government sector.

The consumption function in an economy is given by the equation:

$$C = \text{£}20 \text{ billion} + 0.7Y$$

and planned investment expenditure is given by:

$$I = \text{£}40 \text{ billion}$$

where

C = consumption expenditure

I = planned investment

- (i) Calculate the equilibrium level of national income. [1]
- (ii) Draw a diagram with a planned savings schedule marked S1 and a planned investment schedule marked I1. Clearly indicate on the diagram the value of planned savings and planned investment at the following levels of national income (Y):

$$Y1 = \text{£}100 \text{ billion}$$

$$Y2 = \text{£}300 \text{ billion}$$

[1]

- (iii) On the diagram drawn in part (ii) show what would happen to the investment schedule with a new schedule marked I2 if planned investment rose from £40 billion to £60 billion marking clearly the value of the new level of national income. [2]

[Total 4]

- 34**
- (i) Explain the difference between demand-pull and cost-push inflation. [2]
 - (ii) Identify two problems associated with unanticipated inflation which do not arise with anticipated inflation. [2]

[Total 4]

- 35** Discuss four means by which the authorities can reduce the amount of broad money created by the commercial banking system. [4]
- 36** (i) Explain the difference between the trade account balance and the current account balance of the balance of payments. [2]
- (ii) Explain what economists mean by the J-curve effect following a devaluation of a currency. [2]
- [Total 4]

PART THREE

- 37** (i) Explain how the authorities might use monetary policy to expand economic activity in an open economy in the short run. Discuss the potential problems that may undermine the effectiveness of such a policy. [10]
- (ii) Explain with reasoning what are the main objectives of macroeconomic policy. Discuss any conflicts that the authorities may face when using monetary and fiscal policies to pursue these objectives. [10]
- [Total 20]