

EXAMINATIONS

September 1997

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.*

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 one of the following is a characteristic of a Giffen good?
- A It has an income elasticity of demand between zero and one.
 - B It has an income elasticity of demand greater than one.
 - C A rise in price will lead to a rise in demand.
 - D A fall in price will lead to a rise in demand. [1½]
- 2** If Good X and Good Y are substitutes, a rise in the price of Good X causes the:
- A quantity demanded of Good X to fall and the demand curve for Good Y to shift to the left
 - B quantity demanded of Good X to fall and the demand curve for Good Y to shift to the right
 - C demand curve for Good X to shift to the left and the quantity demanded of Good Y to fall
 - D demand curve for Good X to shift to the right and the quantity demanded of Good Y to fall [1½]
- 3** The market demand curve for Good X is perfectly price inelastic. A per unit sales tax on Good X will:
- A be borne by the sellers only
 - B be borne by the consumers only
 - C be borne by both sellers and consumers
 - D not generate any revenue for the government because the quantity demanded of Good X does not change [1½]
- 4** Which one of the following results in an increase in total consumer expenditure?
- A Demand is unitary price elastic and price falls.
 - B Demand is price elastic and price rises.
 - C Demand is price inelastic and price falls.
 - D Demand is price inelastic and price rises. [1½]

- 5** A consumer's budget constraint describes:
- A the maximum amount of each good that the consumer buys
 - B the combinations of goods that a consumer can afford to buy
 - C all combinations of goods between which the consumer is indifferent
 - D goods outside of the consumer's possible consumption basket
- [1½]
- 6** According to Portfolio Theory, if a portfolio is made up of two risky assets A and B, then the benefits of portfolio diversification will be greatest when the correlation coefficient between returns on assets A and B is:
- A +1
 - B 0
 - C -1
 - D -0.5
- [1½]
- 7** When a consumer with a given income chooses between two goods with fixed prices, the slope of the budget line depends only on the:
- A ratio of the prices of the two goods
 - B income of the consumer divided by the price of each good
 - C ratio of the total utility of each good to the price of each good
 - D ratio of the total utilities of both goods
- [1½]
- 8** Which one of the following is NOT a characteristic of an inferior good?
- A The price elasticity of demand may be greater than one or less than one.
 - B The income elasticity of demand is negative.
 - C The demand for the good increases as income falls.
 - D The income elasticity of demand is between zero and one.
- [1½]
- 9** Which one of the following is NOT characteristic of a firm's short run average, marginal, and total product curves?
- A When marginal product is less than average product, average product is falling.
 - B When marginal product is zero, total product is at a maximum and average product is falling.
 - C When average product is zero, total product is at a maximum.
 - D When marginal product is rising, average product is less than marginal product.
- [1½]

- 10** A perfectly competitive firm is currently producing 2000 units of Good X per week which are sold at £3 per unit. The firm's total cost is currently £12,000 per week of which £4000 is fixed cost. The marginal cost of production is £3 per unit. To maximize profits or minimize losses, the firm should:
- A expand its output in order to increase its total revenue
 - B shut down and produce no Good X in order to minimize its losses
 - C reduce its output to 1,000 units of Good X in order to reduce its total cost of production by £6,000
 - D continue producing 2,000 units of Good X in the short run but not in the long run

[1½]

- 11** When a monopolist maximizes profits, price exceeds marginal revenue. This 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 product price
 - C the firm has to reduce price on all previous units sold in order to sell the additional unit
 - D of the law of diminishing returns

[1½]

- 12** The idea that an oligopolistic firm faces a kinked demand curve is based upon the assumption that:
- A a firm's competitors match both its price increases and price decreases
 - B one firm in the industry sets price for all other firms
 - C a firm's competitors match its price decreases but ignore its price increases
 - D prices can either rise or fall; it depends on what happens to a firm's competitors' prices

[1½]

- 13** If the imposition of a sales tax does not affect the final sale price of a good then the:
- A price elasticity of supply of the good must be greater than the price elasticity of demand
 - B price elasticity of demand for the good must be greater than the price elasticity of supply
 - C supply of the good is perfectly price elastic
 - D demand for the good is perfectly price elastic [1½]
- 14** Assume that the total output of goods and services is held constant and the 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 rises while real GDP falls.
 - D Nominal GDP changes by more than real GDP. [1½]
- 15** Which one of the following will decrease the size of the fiscal multiplier?
- A an increase in the marginal propensity to consume
 - B a decrease in the marginal propensity to import
 - C an increase in the marginal propensity to save
 - D a decrease in autonomous investment [1½]
- 16** According to Keynesian analysis, when a closed economy with no government sector 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** If national income is £500 billion and the level of planned spending by households and businesses is £600 billion then there will be an:
- A accumulation of inventories and output will rise
 - B accumulation of inventories and output will fall
 - C unplanned reduction in inventories and output will fall
 - D unplanned reduction in inventories and output will rise [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. What is the reserve to deposit ratio of the banking system?
- 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 amount of money that people hold is negatively related to the interest rate.
 - B As the level of national income rises, the amount of money balances that individuals hold decreases.
 - C Both the level of national income and the interest rate affect the demand for money balances.
 - D An increase in the real interest rate reduces the demand for real money balances. [1½]
- 20** An increase in the general price level with no change in the money supply will:
- A increase the demand for money and increase aggregate demand
 - B decrease the demand for money and increase aggregate demand
 - C increase the demand for money and decrease aggregate demand
 - D decrease the demand for money and decrease aggregate demand [1½]
- 21** If the government imposes a minimum wage that is above the market equilibrium wage then one would expect:
- A an increase in the quantity of labour demanded
 - B the supply of labour curve to shift to the left
 - C an increase in the quantity of labour supplied
 - D the demand for labour curve to shift to the left [1½]

- 22** 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]
- 23** The marginal propensity to consume in a closed economy with no government sector is 0.9 and planned investment is £50 billion. The equilibrium level of national income is:
- A £500 billion
 - B £95 billion
 - C £45 billion
 - D indeterminate from the information given
- [1½]
- 24** Assume that there are only two Countries A and B and two Goods X and Y. If the opportunity costs of producing Goods X and Y differ between the two countries we can conclude that:
- A It will not be possible for either country to gain from trading with the other.
 - B There is the potential for each country to specialize and trade with the other to their mutual advantage.
 - C Each country should produce some of all goods to promote self-sufficiency.
 - D Each country must have an absolute advantage in either Good X or Good Y.
- [1½]
- 25** Assume that the United Kingdom interest rate is 10% per annum and the German interest rate is 5% per annum. What is the expected annual movement in the deutschmark-pound exchange rate?
- A The deutschmark is expected to depreciate by 2%.
 - B The deutschmark is expected to appreciate by 2%.
 - C The deutschmark is expected to appreciate by 5%.
 - D The deutschmark is expected to depreciate by 5%.
- [1½]

26 If the trade account of the balance of payments is in deficit, which one of the following applies to the current account?

- A It may be in surplus or deficit or balance.
- B It must be in deficit.
- C It must be in surplus.
- D It must be in balance.

[1½]

PART TWO

- 27** You are given the following linear equations relating to the quantity demanded (Q_d) and the quantity supplied (Q_s) of Good X.

$$Q_d = 500 - 5P$$

$$Q_s = 5P$$

where P is the market price in pounds (£s).

- (i) Calculate the equilibrium price. [1]
- (ii) Calculate the quantity sold at the equilibrium price. [1]
- (iii) If a sales tax is introduced at the rate of £10 per unit, what will be the new equilibrium market price? [2]
- (iv) What will be the total sales tax revenue raised resulting from the introduction of the £10 per unit sales tax? [1]

[Total 5]

- 28** Discuss briefly FOUR factors that would lead to a rightward shift of the supply curve for Good X. [4]

- 29** Read parts (i) and (ii) before answering:

- (i) Draw a diagram showing a perfectly competitive firm making a supernormal profit in the short run. Make sure you have the following curves with the marking as in the parentheses: marginal cost (MC1), marginal revenue (MR1), average revenue (AR1), average total cost (AC1). Mark the profit maximising price P_1 , quantity Q_1 and average total cost C_1 . [2]
- (ii) Draw in the same diagram as in part (i) the long run marginal revenue curve marked as MR2, assuming that all the cost curves are unchanged. Mark the long run price as P_2 and output as Q_2 respectively. [2]

[Total 4]

- 30** (i) Explain the difference between the law of diminishing marginal returns and the law of diminishing marginal utility. [2]
- (ii) Draw a total product curve that you would expect from the law of diminishing marginal 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. Clearly indicate on the curve a region of negative marginal utility. [1]
- [Total 4]

- 31** An investor can invest his wealth in only two risky assets, A and B. Asset A has a standard deviation of return of 75% and an expected rate of return of 25%. Asset B has a standard deviation of return of 50% and an expected rate of return of 20%. The correlation coefficient between the returns of Asset A and the returns of Asset B is -0.5 .

Repeat the following table, filling in the missing values (?) for portfolio standard deviation and expected rate of return.

W_A	W_B	<i>Portfolio standard deviation</i>	<i>Expected rate of return on the portfolio</i>
1.0	0	?	?
0.8	0.2	?	?
0.6	0.4	?	?
0.4	0.6	?	?
0.2	0.8	?	?
0	1.0	?	?

where W_A is the proportion of wealth invested in asset A
and W_B is the proportion of wealth invested in asset B [4]

- 32** List FOUR of the main determinants of aggregate consumer expenditure. In each case, indicate whether the relationship is positive or negative. [4]

- 33** Read parts (i) to (iii) before answering. Answer all three parts on a single diagram.

Assume that the economy experiences no change in productivity, money demand or its natural rate of unemployment in either the short run or long run. The inflation rate responds immediately to correspond to the money supply growth rate. However, wage rate inflation adjusts to changes in the inflation rate with a time lag.

- (i) Draw a diagram with inflation on the vertical axis and the unemployment rate on the horizontal axis that illustrates the Phillips curve relationship in the short run. Label the curve PC1. Mark a point N on the horizontal axis that represents the natural rate of unemployment. [1]
- (ii) Assume that the economy is initially on the curve PC1 at the natural rate of unemployment, with a 10 % rate of increase in the money supply and a 10% inflation rate. Mark a point A on the curve PC1 which is likely to result if there was an unexpected decrease in the rate of growth of the money supply to 5%. [1]
- (iii) Assume that the new 5% rate of growth in the money supply in part (ii) turns out to be a permanent decrease in the rate of growth of the money supply. Draw a new curve PC2 which is likely to result in the long run. Mark a point B on the new curve PC2 that a monetarist would expect to observe in the long run, other things being equal. [2]
[Total 4]

- 34** The consumption function for a closed economy with no government sector is given by the equation:

$$C = \text{£}200 \text{ million} + 0.8Y$$

where C is aggregate consumption
and Y is national income

- (i) Calculate the value of aggregate savings if the level of national income is £2000 million. [1]
- (ii) Calculate the equilibrium level of national income if the level of planned investment is £300 million. [1]
- (iii) Calculate the level of aggregate consumption at the equilibrium level of national income if the level of planned investment is £500 million. [1]
- (iv) Calculate the change in national income if planned investment rose from £300 million to £400 million. [1]
[Total 4]

- 35** (i) Explain briefly the likely effects of a fiscal expansion financed by government borrowing on both the domestic interest rate and the level of economic activity. [2]
- (ii) Explain briefly 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. [2]
[Total 4]
- 36** (i) Explain what is meant by the terms of trade and briefly discuss whether a devaluation is likely to lead to an improvement or a deterioration in the devaluing country's terms of trade. [2]
- (ii) Discuss briefly the implications for German and French interest rates if Germany and France decide to agree to fix permanently their exchange rates. [2]
[Total 4]

PART THREE

- 37** (i) Discuss the advantages and disadvantages of price ceilings (maximum permissible prices) and price floors (minimum guaranteed prices).

Your discussion should include examples. Illustrate your answer with the aid of appropriate diagrams. [10]

- (ii) Control of inflation has been a major policy objective of governments in the industrialised countries. Discuss why this is the case and discuss how a policy to control inflation may conflict with the attainment of other macroeconomic objectives. [10]

[Total 20]