EXAMINATIONS

16 April 2002 (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 Good X has a cross elasticity of demand with respect to Good Y which is equal to minus unity (–1). Good X is which of the following with respect to Good Y?

A A perfect substitute.
B An imperfect substitute.
C A perfect complement.
D An imperfect complement. [1½]

2 Which of the following will result from the imposition of a 10 per cent sales tax on Good X, the demand for which has an own price elasticity of demand equal to –1?

A A rise in the price of Good X by 10 per cent.
B A rise in the price of Good X by less than 10 per cent.
C A rise in the price of Good X by 20 per cent.
D No change in the price of Good X.

[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 money income is unchanged, the price of Good X falls by 50% and the price of Good Y rises by 50% the net result will be to:

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 A movement along a consumer's indifference curve from left to right means that the consumer's:

A utility will rise
B utility will fall
C utility will be unchanged
D money income is unchanged [1½]

5 If the income elasticity of demand for Good X is 2, a rise in all consumers' disposable incomes from £50 million to £52 million will increase the quantity demanded of Good X by:

A 2%
B 4%
C 6%
D 8% [1½]

6 Which one of the following statements about short run costs is FALSE?

A Marginal cost is equal to average variable cost when average variable cost is at a minimum.

B Average fixed costs always fall as output rises.

C Average total costs exceed average variable costs by an amount that increases with increasing output.

D Marginal costs of production can be above or below average total costs.

[1½]

7 Diseconomies of scale means:

A short run average total cost increases as output rises
B long run average total cost increases as output rises
C the price of a product increases as output rises
D the total cost of a product increases as output rises [1½]

8 A perfectly competitive firm is producing at a level of output where short run marginal cost exceeds marginal revenue. What should the firm do to maximise its short run profits?

A Reduce its output.
B Raise its output.
C Raise its price.
D Reduce its price. [1½]

9 A monopoly firm facing a linear demand schedule and having positive but constant marginal costs is currently producing where its marginal cost is below its marginal revenue. If the firm wishes to maximise profits then it should:

A lower its price and increase output
B raise its price and increase output
C lower its price and decrease output
D raise its price and decrease output [1½]

10 Which one of the following statements about market structure is TRUE?

A Perfect competition is distinguished from all other market structures because of the assumption of no barriers to entry/exit from the industry.

B Firms under monopolistic competition face horizontal demand curves for their products.

C A monopoly will find that its average revenue is always greater than its average costs.

D Under perfect competition, in the long run, each firm will find that its marginal cost is equal to its average cost of production. [1½]

11 Total Revenue from the sale of a good will decrease if:

A income increases and the good is normal
B income falls and the good is inferior
C its price rises and demand is price inelastic
D its price rises and demand is price elastic [1½]

12 Which one of the following does NOT follow from the "kinked" demand curve theory of oligopoly?

A The oligopolist will seek to maximise profits.
B There is a discontinuity in the marginal revenue curve of the oligopolist.
C There is a discontinuity in the average revenue curve of the oligopolist.
D There is a kink in the average revenue curve of the oligopolist. [1½]

13 If the government imposes a price ceiling on Good X which exceeds the equilibrium price then for Good X:

A the price will rise above the equilibrium price
B the market price will prevail
C a shortage will arise
D a surplus will arise [1½]

14 You are given the following data on the relationship between national income (Y) and consumer expenditure (C) in a closed economy with no taxes:

Y	100	120	140
C	80	96	112

What is the value of the simple Keynesian multiplier?

A 0.8
B 1.25
C 4
D none of the above [1½]

15 The accelerator principle states that:

A investment is increased when interest rates fall

B an increase in national income can lead to a more than proportionate increase in the level of investment

C an increase in investment can lead to a more than proportionate increase in national income

D the rate of change of investment affects the rate of change of output [1½]

16 The following table contains output and expenditure data for an economy:

	£ billions
Consumption (at market prices)	300
Investment (at market prices)	90
Government spending (at market prices)	100
Net Exports (at market prices)	−10
Net Property income from abroad	15
Indirect taxes	60

Gross Domestic Product at FACTOR COST and Gross National Product at MARKET PRICES are respectively:

A 420, 495
B 480, 435
C 420, 435
D 480, 495 [1½]

17 Which of the following will decrease the size of the multiplier?

A A decrease in the marginal propensity to save.
B An increase in the marginal propensity to consume.
C An increase in the marginal rate of taxation.
D A decrease in government expenditure. [1½]

18 In an open economy with a government sector, which one of the following conditions will ensure that national income and expenditure are equal?

Given:

S = Savings , I = Investment, T = Taxation, G = Government expenditure
B = Transfer Payments, Z = Import expenditure, X = Export receipts,
C = Consumer expenditure

A $S + T + Z = I + G + C + X$
B $S + T + Z = I + G + B + X$
C $S + T + C = I + G + B + X$
D None of the above. [1½]

19 The quantity theory of money in its simplest form assumes that the:

A velocity of circulation and nominal output are reasonably stable
B ratio of the velocity of circulation to the price level is reasonably stable
C ratio of the money supply to the velocity of circulation is reasonably stable
D velocity of circulation and real output are both reasonably stable [1½]

20 Which one of the following is the most accurate description of the National Debt?

A The annual gap between total government tax receipts and total government expenditure.

B The total amount owed by a country to the rest of the world.

C The net accumulation of a country's budget deficits.

D The net accumulation of a country's balance of payments deficits. [1½]

21 A contractionary open market operation by the central bank will result in a fall in the money supply and:

A a fall in the short term rate of interest and a fall in the price of treasury bills
B a fall in the short term rate of interest and a rise in the price of treasury bills
C a rise in the short term rate of interest and a fall in the price of treasury bills
D a rise in the short term rate of interest and a rise in the price of treasury bills
[1½]

22 In the event of a recession in the economy, automatic stabilisers would be expected to:

A raise government expenditure and reduce tax revenue
B raise government expenditure and raise tax revenue
C reduce government expenditure and raise tax revenue
D reduce government expenditure and reduce tax revenue [1½]

23 Which one of the following will lead to the most crowding out after an increase of 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]

24 The nominal rate of interest is 2% and the rate of inflation is negative at −3%. Which one of the following is TRUE?

A The real rate of interest is negative.
B The rate of inflation is greater than the real rate of interest.
C The real rate of interest is greater than the nominal rate of interest.
D The real rate of interest is −1%. [1½]

25 The current equilibrium dollar ($) per pound (£) exchange rate is $1.50/£1. The forecast for inflation rates for the next year are 8% for the United Kingdom and 3% for the United States. What would be the forecast for the equilibrium dollar-pound exchange rate one year from now if purchasing power parity is used?

A $1.67/£1
B $1.58/£1
C $1.43/£1
D $1.34/£1 [1½]

26 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 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 decrease its export revenues. [1½]

27 A consumer has £2.00 of income which is entirely spent on Good X and Good Y. Good X costs 20 pence, Good Y costs 40 pence.

The relevant marginal utilities for the consumer are:

Quantity of Good X	*Marginal Utility of Good X*	*Quantity of Good Y*	*Marginal Utility of Good Y*
1	100	1	170
2	80	2	120
3	60	3	80
4	40	4	60
5	20	5	50
6	10	6	40

(i) Calculate the quantity of Good X and quantity of Good Y the utility maximising consumer will buy. [2]

(ii) State the total utility of the consumer when he is maximising his satisfaction. [1]

(iii) If the consumers income is doubled to £4 and the price of Good X is doubled to 40 pence, what will be the new utility maximising quantities of Goods X and Y purchased? [1]

[Total 4]

28 A producer has constant average total costs of production of £1 per unit of output produced. The producer knows the following data on the weekly sales for Good X at different price levels:

Price (£'s)	*Quantity sold*
3	300
4	250
5	200
6	150

(i) Draw a diagram to show the relationship between price (horizontal axis) and total profit (vertical axis) from the above data. Indicate clearly the level of profits at each price. [2]

(ii) Calculate the price elasticity of demand for a rise in price from £4.00 to £5.00. [1]

(iii) Calculate the approximate marginal revenue associated with changing prices from £5 to £6. [1]

[Total 4]

29 Draw a diagram for a profit maximising monopoly firm with *constant* marginal costs at all levels of output making losses in the short run and yet finding it viable to continue production. Use the following labels:

AR	Average Revenue Curve
MR	Marginal Revenue Curve
MC	Marginal Cost Curve
AC	Average Total Cost Curve
AVC	Average Variable Cost Curve

Indicate the price (P1), quantity (Q1), average total cost (C1) and average variable cost (AVC1) at the loss minimising level of output. [5]

30 (i) Describe the "substitution effect" of a price change. [2]

(ii) Describe the "income effect" of a price change. [2]

[Total 4]

31 (i) Explain briefly the problem of "adverse selection" and how it might be dealt with by insurance companies. [2]

(ii) Explain briefly the problem of "moral hazard" and how it affects the price of insurance. [2]

[Total 4]

32 Describe how the following might be taken account of in measures of national income.

(i) a reduction in the value of assets due to wear and tear [2]

(ii) inflation [2]
[Total 4]

33 (i) Explain what the IS curve for a closed economy depicts. [2]

(ii) Explain two factors that may shift the IS curve to the right in a closed economy. [2]
[Total 4]

34 State for each of the following whether the proposition is more likely to be Keynesian or Monetarist.

(i) Both the short run and long run Phillips curves are vertical. [1]

(ii) Money and other financial assets are relatively close substitutes for one another. This means that money demand is relatively elastic with respect to changes in interest rates. [1]

(iii) Money demand can be highly unstable in both the short run and long run. [1]

(iv) The IS curve is likely to be steep and the LM curve likely to be relatively flat. [1]
[Total 4]

35 (i) Describe the differences between direct and indirect taxes and provide examples of both. [2]

(ii) Describe the differences between progressive and regressive systems of taxation and provide examples of both. [2]
[Total 4]

36 A perfectly competitive firm can sell its output of Good X for £20 per unit. Labour is the only variable input and the daily wage rate is £100.

You are given the following information:

Quantity of Labour Input (per day)	*Output of Good X (per day)*
1	5
2	14
3	30
4	38
5	42

(i) Construct a table to show at each quantity of labour employed per day:

(a) the marginal product of labour
(b) the marginal revenue product of labour [2]

(ii) Determine the profit maximising quantity of labour input. [2]
[Total 4]

37 (i) Describe and discuss the various categories of unemployment that can exist in an economy. [10]

(ii) Explain what is meant by the term "economic growth" and discuss the various factors that can raise the economic growth rate. [10]
[Total 20]