EXAMINATION

6 October 2009 (am)

Subject CT7 — Economics
Core Technical

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 38 questions. From question 27 onwards begin each answer on a separate sheet.*

5. *Candidates should show calculations where this is appropriate.*

Graph paper is 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 the 2002 edition of the Formulae and Tables and your own electronic calculator from the approved list.

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

1 What is the combined effect of an increase in the cost of production and a rise in consumer income on the equilibrium price and quantity of a normal good?

A The effect on price is indeterminate but quantity will fall.
B The effect on price is indeterminate but quantity will rise.
C The effect on quantity is indeterminate but price will rise.
D The effect on quantity is indeterminate but price will fall.

[1½]

2 If the price elasticity of demand for a product is -2, a reduction in its price from 20 pence to 19 pence will result in an increase in demand of:

A 2.0 per cent.
B 2.5 per cent.
C 10 per cent.
D 38 per cent.

[1½]

3 If rail travel is an inferior good, which one of the following will lead to a shift of its demand curve to the left?

A an increase in incomes
B a rise in car prices
C an increase in petrol prices
D a rise in the price of rail travel

[1½]

4 Which one of the following is NOT a barrier to entry into a monopoly market?

A significant economies of scale
B heavy potential advertising costs
C large capital requirements
D constant returns to scale

[1½]

5 In the short run, a firm’s average fixed costs of production will:

A increase as its output increases.
B decrease as its output increases.
C remain constant as its output increases.
D always be greater than its average variable costs of production.

[1½]

6 Assuming that the marginal and average cost curves are unchanged, following an increase in demand, firms in a perfectly competitive market may:

A raise their price in the short run but the price will fall back to its original level in the long run.
B keep their price constant both in the short and in the long run.
C raise price in both the short run and the long run.
D keep price constant in the short run but raise their price in the long run.

[1½]

7 Other things being equal, a fall in a monopolist's fixed costs of production, which does not lead to new entrants, causes:

A the market price to fall but quantity supplied to increase.
B the market price to rise but quantity supplied to fall.
C both market price and quantity supplied to rise.
D no change to the market price or quantity supplied.

[1½]

8 A price ceiling set below the free market price results in:

A excess demand and shortages.
B excess supply and surpluses.
C excess demand and surpluses.
D excess supply and shortages.

[1½]

9 A profit maximizing monopolist would reduce its price if:

A its marginal costs of production decrease.
B it is making excess profits.
C its fixed costs of production decrease.
D it is making a loss.

[1½]

10 Which of the following is NOT a prediction of the theory of monopolistic competition?

A When the monopolistically competitive industry achieves a long-run equilibrium, price is greater than marginal cost.
B Monopolistically competitive firms offer differentiated products and face a downward sloping demand curve.
C Under monopolistic competition, the price charged to the consumer is equal to the average revenue of the firm.
D Monopolistically competitive firms can earn supernormal profits in the long run.

[1½]

11 Which of the following is NOT an axiom of the expected utility theorem?

A comparability
B indifference
C independence
D transitivity

[1½]

12 Under conditions of diminishing marginal product with marginal product being positive, a firm will find that as it employs more of a variable factor of production in the short run total product will:

A fall at an increasing rate.
B fall at a decreasing rate.
C rise at an increasing rate.
D rise at a decreasing rate.

[1½]

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

A marginal utility will rise.
B total utility will be unchanged.
C marginal utility will fall.
D money income is unchanged.

[1½]

14 When taxes on all income are progressive then as income increases the marginal tax rate will:

A be less than the average tax rate.
B be greater than the average tax rate.
C be equal to the average tax rate.
D initially be less than, but eventually greater than, the average tax rate.

[1½]

15 Given the following data for an economy, what is the value of its Gross National Income?

Consumption expenditure	£140 million
Investment	£40 million
Government expenditure	£80 million
Exports	£20 million
Imports	£60 million
Net property income from abroad	£20 million

A £180 million
B £200 million
C £220 million
D £240 million

[1½]

16 In the circular flow of income model which of the following is TRUE?

A Savings, taxes and investment are withdrawals.
B Exports, imports and government expenditure are withdrawals.
C Investment, government expenditure and exports are injections.
D Investment, exports and consumption are injections.

[1½]

17 Which one of the following is NOT part of the Gross National Income?

A wages from self employment
B property rental income
C transfer payments
D net property income from abroad

[1½]

18 Which one of the following situations will lead to the most crowding out following 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]

19 Government attempts to increase the money supply through open market operations are likely to cause short term interest rates to:

A rise and reduce money demand.
B rise and raise money demand.
C fall and reduce money demand.
D fall and raise money demand.

[1½]

20 An open economy has the following characteristics:

Consumption expenditure	= 0.6Y
Investment expenditure	= £200 million
Government expenditure	= £500 million
Exports	= £300 million
Imports	= 0.3Y

The rate of taxation is 50% of all income, where Y is national income.

Determine the value of Y.

A £500 million
B £700 million
C £1,000 million
D £1,300 million

[1½]

21 Other things being equal, an increase in the fiscal surplus will lead to a:

A rise in long term interest rates.
B increase in the money supply.
C a fall in bond prices.
D none of the above.

[1½]

22 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]

23 In IS/LM analysis an increase in government spending may be illustrated as follows:

A The IS curve shifts left and the LM curve remains in the same place.
B The IS curve shifts right and the LM curve remains in the same place.
C The LM curve shifts left and the IS curve remains in the same place.
D The LM curve shifts right and the IS curve remains in the same place.

[1½]

24 The accelerator principle implies that:

A investment is increased when interest rates fall.
B an increase in investment will lead to a proportionate increase in output.
C the rate of change of investment is directly proportional to the rate of change of output.
D small fluctuations in national income can lead to large fluctuations in investment demand.

[1½]

25 Given the following labour hours to produce 1 unit of Goods X and Y, which of the statements below is TRUE?

Country	*Good X*	*Good Y*
A	10	5
B	5	20

A Country A has a comparative advantage and an absolute advantage in producing Good Y.
B Country B has a comparative advantage in producing Good X and an absolute advantage in producing Good Y.
C Country A has a comparative advantage in producing Good Y and an absolute advantage in producing Good X.
D Country B has a comparative advantage in producing Good Y and an absolute advantage in producing Good X.

[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 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]

27 (i) Draw a diagram to illustrate the profit maximising price and output for an oligopolist with a kinked demand curve. Use the following labels; AR1 for the average revenue curve, MR1 for the marginal revenue curve, AC1 for the average cost curve, MC1 for the marginal cost curve, P1 for price and Q1 for quantity. [2]

(ii) Use the diagram drawn in part (i) to show an increase in the marginal and average costs of production which does not affect the firm's profit maximising price and output. Use the labels MC2 and AC2 for the new cost curves. [2]

(iii) Explain what you would expect to happen to total revenue if the firm decided to raise its price above P1. [1]
[Total 5]

28 A perfectly competitive firm manufactures Good X which sells at £35 per unit. The total costs of production for different levels of output per day are given below:

Output	*Total Cost (£)*
0	30
1	40
2	58
3	84
4	120
5	170

(i) Construct a table to provide the following information at each level of output:

(a) Total Fixed Cost
(b) Marginal Cost
(c) Average Total Cost

[3]

(ii) State the level of output that will maximise profit. [1]
[Total 4]

29 Draw a separate diagram for each of the following events to illustrate the impact of the change on the quantity of a Good X demanded and supplied.

Good X is an inferior good. Before the introduction of the change, label the demand curve D1, the supply curve S1 and price and quantity P1 and Q1 respectively. Label any new demand and supply curves D2 and S2 respectively and the new price and quantity P2 and Q2.

(i) A rise in the price of a substitute Good Y. [1]
(ii) A government subsidy on the production of Good X. [1]
(iii) A fall in consumers' incomes. [1]
(iv) A fall in input costs in the industry that produces Good X. [1]
[Total 4]

30 (i) Describe the problem of adverse selection and how it might be dealt with by insurance companies. [2]

(ii) Explain the problem of moral hazard and how it affects the price of insurance. [2]
[Total 4]

31 Read parts (i) to (iii) before answering. Use only one diagram to answer all three parts of the question.

A consumer has an income of £600 which he can spend on Good X or Good Y or some combination of the two goods. Good X costs £20 per unit and Good Y costs £40 per unit.

(i) Draw a budget line for the consumer, labelling the quantities of Good X and Good Y at the points where the budget line meets the quantity of Good X and Good Y axes. [1]

(ii) On the diagram for (i), draw an indifference curve for Good X and Good Y labelled IC1, part of which shows a number of different combinations of quantities of Good X and Good Y which the consumer could afford to buy. Mark with a Z all the points on the curve where the consumer is spending all his income. [2]

(iii) On the same diagram, draw a second indifference curve for Good X and Good Y labelled IC2 which represents an unobtainable level of utility for the consumer. [1]
[Total 4]

32 Company A incurs fixed costs of £200 per week to produce Good X. The table below shows how the weekly production of Good X increases as more workers are employed. The weekly wage rate is £120 per worker. Company A can sell all it produces of Good X at a price of £25 per unit.

Number of workers per week	*Total production per week*
0	0
1	3
2	10
3	20
4	33
5	39
6	42
7	40

(i) Construct a table to show the following at each level of employment:

(a) the marginal product of labour
(b) the marginal cost of producing Good X [2]

(ii) Determine the output level at which profits are maximised. [1]

(iii) State the marginal revenue product of labour at the profit maximising output. [1]
[Total 4]

33 The following information is given on Country A:

Autonomous consumption expenditure	£8 billion
Investment expenditure	£5 billion
Government expenditure	£6 billion
Export expenditure	£3 billion

The income tax rate is 25 per cent of all income, the marginal propensity to consume is 0.8 and the marginal propensity to import is 0.15.

(i) Calculate the equilibrium level of national income. [1]

(ii) Determine the total value of leakages at the equilibrium level of national income. [1]

(iii) Calculate the increase in government expenditure that would be necessary to obtain an equilibrium level of national income of £50 billion. Assume other expenditure items remain constant. [2]
[Total 4]

34 Outline the three reasons for holding money according to Keynesian analysis. [3]

35 (i) Describe the Phillips curve. [2]

(ii) Explain why monetarists feel that in the long run the Phillips curve is vertical. [3]

[Total 5]

36 Given the following data on Country A's balance of payments:

	£ millions
Exports of goods	+ 200
Imports of goods	-150
Exports of services	+120
Imports of services	-160
Interest, profits and dividends received	+15
Interest, profits and dividends paid	-10
Unilateral receipts	+30
Unilateral payments	-20
Capital outflows	-185
Capital inflows	+140
Statistical error	?
Change in reserves [rise (-), fall (+)]	+10

(i) Calculate the "invisibles" balance. [1]

(ii) Calculate the current account balance. [1]

(iii) Calculate the balance for official financing. [1]

(iv) Determine the statistical error. [1]

[Total 4]

37 Discuss the following statement.

"Inflation can be caused by either cost-push or demand-pull factors. Whatever the cause, inflation is especially harmful to an economy when it is unanticipated."

[10]

38 Discuss how contractionary fiscal and monetary policies can be used to control inflation. [10]

END OF PAPER