

ENGINEERING TRIPOS PART IIA

Monday 1 May 2006 2.30 to 4

Module 3E1

BUSINESS ECONOMICS

*Answer not more than **two** questions.*

All questions carry the same number of marks.

*The **approximate** percentage of marks allocated to each part of a question is indicated in the right margin.*

There are no attachments.

STATIONERY REQUIREMENTS

Single-sided script paper

SPECIAL REQUIREMENTS

CUED approved calculator allowed

You may not start to read the questions printed on the subsequent pages of this question paper until instructed that you may do so by the Invigilator

- 1 (a) Define the following as precisely as you can:
- (i) The concept of a Nash Equilibrium; [10%]
 - (ii) The concept of Pareto Efficiency. [10%]
- (b) For the game below determine:
- (i) The Nash Equilibriums; [15%]
 - (ii) The Pareto efficient allocations. [15%]
 - (iii) What is the likely outcome if player 2 is allowed to move first? [20%]

| | | | | |
|----------|---|----------|--------|---------|
| | | Player 2 | | |
| | | L | C | R |
| Player 1 | T | (-1, 2) | (0, 1) | (3, 2) |
| | M | (6, -2) | (4, 4) | (1, 3) |
| | B | (2, 2) | (0, 2) | (-2, 5) |

Payoffs are shown as (player 1, player 2)

- (c) Explain the concept of comparative advantage. [15%]
- (d) Describe one policy that a country may use to increase its exports. [15%]

- 2 (a) Sketch the indifference curves associated with the following utility functions:
- (i) $U(x, y) = x$ [10%]
 - (ii) $U(x, y) = x - \max(y - x, 0)$ [30%]
- (b) Explain the probable current consumption and saving behaviour of a student aged 21 if he or she was behaving according to that predicted by the life cycle hypothesis. [30%]
- (c) Explain the impact of the following on the level of consumption:
- (i) a temporary decrease in the rate of income tax; [15%]
 - (ii) a fall in import prices. [15%]
- 3 (a) What is the economic case against monopolies? [40%]
- (b) Explain the concept of a single European market. [20%]
- (c) What are the potential advantages of the single European market? [20%]
- (d) What are the potential advantages of single European currency? [20%]

(TURN OVER

4 (a) Two firms, A and B, producing an identical product have the following cost functions:

$$C_A = q_A^2$$

$$C_B = 2q_B^2$$

where q_A is the output of firm A and q_B the output of firm B. The inverse demand function for their product is:

$$P = 150 - 2(q_A + q_B)$$

where P is the market price.

- (i) Determine the Cournot equilibrium output for each firm and the profits each firm makes in equilibrium. [40%]
- (ii) Why is there likely to be an incentive for the two firms to collude? [25%]
- (b) What are the main sources of economic growth in the neoclassical exogenous growth model? [20%]
- (c) What policies can Governments implement to improve the rate of economic growth? [15%]

END OF PAPER