ENGINEERING TRIPOS PART IIA

Friday 13 May 2011 9 to 10.30

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

Final Version

1 (a) Suppose that a market contains two firms, A and B, both of which produce identical products. The (inverse) market demand function for the product is given by:

$$P = 2500 - Q$$

where P is the market price, Q is the total quantity demanded and $Q = q_A + q_B$ in equilibrium, where q_A is the output of firm A and q_B is the output of firm B.

The total cost function of each firm is given by:

$$C_A = 100q_A$$

$$C_B = 200 + 80q_B$$

Suppose that the two firms play a Stackelberg (one-shot sequential quantity-setting) game, with firm A able to set its output in advance of firm B.

(i) Explain what is meant by a reaction function for a firm in this context and derive the reaction function for each firm. [25%]

(ii) Calculate the output of each firm and the market price in the Stackelberg equilibrium. [20%]

(b) Explain the difference between the nominal and the real exchange rate. [10%]

(c) Explain the concept of the law of one price. [15%]

(d) Outline the possible impacts on the economy if the nominal exchange rate depreciates. [30%]

2 (a) Why is a firm that operates in a perfectly competitive market said to be a *price-taker*? [15%]

(b) 'The long-run supply curve of a perfectly competitive firm is its long-run marginal cost curve.' Discuss. [25%]

(c) 'In a perfectly competitive industry, firms will necessarily operate at their minimum efficient scale.' Is this statement true or false? Explain your reasoning. [25%]

(d) Explain the concept of a European single market. [10%]

(e) Discuss the economic impacts of a more integrated European single market. [25%]

3 (a) Explain what economists mean by the terms *Pareto superior* and *Pareto efficient*. [20%]

(b) Using an Edgeworth Box diagram, explain what is meant by a competitive general equilibrium. Will a competitive general equilibrium necessarily result in a fair distribution of resources within an economy? [40%]

(c) The Government introduces a temporary increase in income tax which will last for one year.

(i) Explain the possible impacts on the economy assuming that the life cycle hypothesis of consumption is correct. [20%]

(ii) Explain the possible impacts on the economy assuming that the Keynesian consumption function is correct. [20%]

4 (a) Briefly explain how economists use indifference curves to represent a consumer's preferences between different bundles of two goods. [20%]

(b) 'An inferior good is necessarily a Giffen good, but a Giffen good need not be an inferior good.' Discuss. [25%]

(c) Outline the key differences between the Phillips Curve and the Expectations Augmented Phillips Curve. [25%]

(d) Outline the key features of the neoclassical exogenous growth model. [30%]

END OF PAPER