

ENGINEERING TRIPOS PART IIA

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Monday 28 April 2003

2.30 to 4.00

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Module 3E7

MICROECONOMICS

*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.*

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) Explain how you can represent your preferences between different bundles of two goods. [20%]

(b) Explain how, in equilibrium, the marginal rate of substitution between two goods is related to the ratio of their prices. [20%]

(c) “If two consumers have identical preferences, can there be gains from trade between them?” Explain. [60%]

2 (a) What are the essential elements in the description of a game? [20%]

(b) Explain the concept of the Nash equilibrium, using an example. [30%]

(c) An incumbent monopolist faces the threat of entry by a potential competitor and has the choice between fighting it off, or colluding after entry. Represent the situation as a game and discuss the equilibrium. [50%]

3 (a) EITHER

Explain the concept of “Externalities” using an example to illustrate the nature of the economic problem,

OR

Explain the concept of “Transactions costs” using an example to illustrate the nature of the economic problem. [40%]

(b) Fishing in open access fisheries has been likened to a prisoner’s dilemma game. Comment. [60%]

4 (a) Give an example of a principal-agent relationship, and explain the “hidden-action” problem that arises in it under conditions of asymmetric information. [40%]

(b) EITHER

Considerations of “participation” and “incentive compatibility” should inform the design of a compensation system so as to elicit optimal effort from the agent. Discuss.

OR

Is an output sharing system efficient in a principal-agent relationship? Discuss. [60%]

**END OF PAPER**