

ECONOMICS TRIPOS PART I

Monday 7 June 2004

1.30-4.30

Paper 1

MICROECONOMICS

*Attempt **six** questions only from Section A, and **two** questions only from Section B.*

Section A and B will each carry 50% of the total marks for this paper.

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

SECTION A

1 Does a monopoly distort the consumption of a normal good less than the consumption of a luxury good?

2 If a consumer maximises utility, does the marginal rate of substitution always equal the relative price? Explain.

3 In an exchange economy with four goods, at a particular set of prices for the four goods, demand for good 1 equals supply of good 1 and demand for good 2 equals supply of good 2. Can anything be said about whether, at these prices, demand for good 3 equals supply of good 3 and demand for good 4 equals supply of good 4?

4 Consider firms in an industry with restricted entry where all firms have decreasing returns to scale technologies and where firms within this industry act as price takers. Do you expect firms' profits to be positive in this environment?

5 A consumer's preference ordering over two goods x, y is given by the utility function

$$U(x, y) = \min\{4x, 7y\}$$

The price of each good is $p_x = 3$ and $p_y = 2$. What is the minimum income required for a utility maximising individual to choose 4 units of y ?

6 Would you expect milk production and railways to operate at minimum efficient scales in the long run?

7 Under what circumstances would an individual prefer to move second rather than first in a game?

8 Major cities suffer serious air pollution due to motor vehicles. What advice would you give city governments?

9 'Fuel taxes are regressive.' Discuss.

- 10 Compare the return to scale for the following technologies

$$f(x, y) = x^{0.4} y^{0.5}$$

$$g(x, y) = x^{0.6} y^{0.7}$$

calculate the technical rate of substitution and comment on the result.

SECTION B

- 11 What are the effects of taxation on capital demand versus labour demand? Is there any reason to tax them differently?

12 Explain why the equilibrium of an industry consisting of a single monopoly firm is Pareto-inefficient. Discuss the view that, since the monopoly equilibrium is Pareto-inefficient, consumers will have incentives to negotiate a Pareto-superior outcome with the monopolist, and thus there is no need for any policy intervention.

- 13 Consider two individuals with identical preferences who each own a different durable good. If an individual keeps the good to himself he gets a , whereas if he shares it with the other individual they both get a from it.

- (a) Present the payoffs from the strategies *keep* and *share* in a payoff matrix. Is there a dominant strategy? What is the Pareto efficient outcome? Is it a Nash equilibrium?
- (b) Now suppose that sharing the good with the other individual causes slight inconvenience to the owner. Would this change your answer to (a)?

- 14 What is the effect on labour supply when married couples are taxed individually rather than jointly?

- 15 Describe the inter-temporal choice problems of borrowing money to buy a car and to go on holidays respectively. Are these two problems equivalent?

- 16 If observed choices violate any of the 'Axioms of Choice', does this imply that consumers are not rational?

END OF PAPER