

EC10006

University of Bath

DEPARTMENT OF ECONOMICS AND INTERNATIONAL DEVELOPMENT

Year I : Semester I : EC10006

INTRODUCTORY MICROECONOMICS I

Friday, 24 January 2003. 1300 - 1500

PLEASE WRITE YOUR NAME IN THE SPACE PROVIDED IN THE  
ANSWER BOOK AND SEAL THE FLAP WITH YOUR CANDIDATE  
NUMBER LABEL

A calculator is not required for this examination

ANSWER QUESTIONS 1 and 2 and ONE other Question

WHEREVER POSSIBLE USE DIAGRAMS TO ILLUSTRATE ANSWERS

## **EC10006: Introductory Microeconomics**

**Answer Questions 1 and 2 and ONE other question**

**Wherever possible use diagrams to illustrate answers**

1. Define and write short notes on the following:

- (a) Prisoners' dilemma
- (b) Free rider problem
- (c) Long run equilibrium under monopolistic competition
- (d) Marginal revenue product of an input
- (e) Allocative efficiency
- (f) Natural monopoly
- (g) Contestable market
- (h) Cartel instability

(32 marks)

2. Are the following statements true or false? Briefly explain your answer.

- (a) Suppose X and Y are the only two goods in an economy, with prices  $p_x$  and  $p_y$  respectively. If Y is a normal good, then its demand could rise or fall when  $p_x$  rises (with  $p_y$  held constant).
- (b) An inferior good is really not a *good* at all but instead a *bad* since the consumer buys less of it when she has more income.
- (c) Suppose the economy has only two goods. If those goods are perfect complements, then the income effect is always larger than the substitution effect for each good. Thus, both goods are Giffen goods.
- (d) The long-run average cost curve is the locus of the minimum points of the short-run average cost curves.
- (e) When there is diminishing marginal product in all factors of production, the firm is operating over a range of decreasing returns to scale so that average variable costs must be rising.
- (f) A perfectly competitive firm will never produce if marginal costs are falling.
- (g) When every firm has an upward sloping long run supply curve, the long run supply curve for the entire industry must similarly slope upwards.
- (h) Whether it takes prices as given or behaves monopolistically, every profit maximising firm seeks to maximise the surplus transferred from consumers to itself. Thus, the difference between perfect competition and monopoly lies only in the division of consumer and producer surplus; total surplus always remains the same.
- (i) A consumer facing a perfectly discriminating monopolist in industry X is indifferent between buying or not buying commodity X.
- (j) Under conditions of monopsony in the labour market, the introduction of a minimum wage may increase both wages and employment.

(40 marks)

EITHER

3. (The isocost line is the locus of factor inputs such that their total combined cost is equal to a given constant). Suppose a firm uses two inputs, labour (L) and capital (K). The daily wage rate is £15 and the capital rental is £60.
- (a) Depict on a diagram the isocost line for a firm spending  $C^* = £3,000$  on inputs. Put on this diagram a typical isoquant for output level, say  $Q^*$ , and illustrate the optimal levels  $L^*$  and  $K^*$  at cost  $C^*$ . (8 marks)
- (b) Suppose the government introduces a minimum daily wage rate of £20. With capital fixed at  $K^*$  in the short run, show on a diagram and describe the costs to the firm of continuing to produce  $Q^*$ . (10 marks)
- (c) Assuming the minimum wage as given, show on a diagram and describe how the optimal input mix of producing  $Q^*$  will change in the long run. How does the eventual production cost compare both to that in the short run and before the imposition of a minimum wage? (10 marks)

OR

4. (a) Mr Smith buys a lottery ticket; is he risk averse, risk neutral or risk loving? Mr Smith also takes out comprehensive motor insurance; is he risk averse, risk neutral or risk loving? Is Mr Smith's behaviour rational? (12 marks)
- (b) Explain the relevance of risk pooling to the insurance industry. (6 marks)
- (c) Should insurance companies charge everyone the same premium irrespective of whether they belong to high risk groups (e.g. young male drivers)? (10 marks)

OR

5. The inefficiency which results from an externality is often interpreted as being due to a "missing market". Discuss (a) the Coase theorem; and (b) marketable pollution permits, in the light of this interpretation. (28 marks)