Examination Period 3: 2016/2017

ECN101517N

Module Title  Introduction to Microeconomics
Level        Four
Time Allowed Two hours

Instructions to students:
- Enter your student number not your name on all answer books.
- Answer all questions.
- All questions are equally weighted.
- The use of a non-programmable calculator is permitted.

No. of Pages  3
No. of Questions  4
Answer all questions.

1. Deborah has the following utility function over bread \((B)\) and wine \((W)\):

\[ U(B, W) = 2B^{0.5}W^{0.5} \]

The corresponding marginal utilities are:

\[ MU_B = \left( \frac{W}{B} \right)^{0.5} \]
\[ MU_W = \left( \frac{B}{W} \right)^{0.5} \]

a. Determine her optimal consumption of bread and wine if her budget is £130, the price of bread is £5 and the price of wine is £8. Represent it graphically. (8 marks)

b. What is the new optimal bundle if her income increases to £150? Use appropriate diagrams to illustrate your answer. (8 marks)

c. What if the price of bread increases to £6? Use appropriate diagrams to illustrate your answer. (9 marks)

2. Describe, using appropriate diagrams, the effect on a firm’s total cost, average cost, fixed cost, variable cost, average variable cost, average fixed cost, and marginal cost, of the following events:

a. Government imposes a fixed tax on all firms, to finance pollution control programs. (6 marks)

b. Management signs a new agreement with the firm’s workers’ union, increasing wages above their current level. (6 marks)

c. Government imposes a unit tax on the goods sold. (7 marks)

d. Interest rates increase. (6 marks)
3. A perfectly competitive firm has the following Short-Run Average Cost curve:

\[ AC = 3 + 4Q \]

a. What is the expression for its Short-Run Total Cost curve? Represent both graphically. (6 marks)

b. Does the firm have any fixed costs? Explain your answer. (6 marks)

c. If the market price of the good is £2, will the firm be able to earn any profits? (6 marks)

d. Find the firm’s supply curve. (7 marks)

4. Explain why each of the following statements is false. For each, write the correct statement.

a. A monopolist maximizes profits when \( P = MC \). (7 marks)

b. The higher the price elasticity, the higher is a monopolist’s price above its \( MC \). (9 marks)

c. Monopolists will maximize sales. They will therefore produce more than firms in perfect competition, and their price will be lower. (9 marks)