

Ollscoil na hÉireann, Gaillimh
National University of Ireland, Galway
Semester I Examinations 2005 / 2006

GX294

Exam Code(s) 2BA5
Exam(s) 2BA (Economic & Social Studies),
St. Angela's College, Sligo

Module Code(s) EC201
Module(s) Microeconomics

Paper No.
Repeat Paper

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Internal Examiner(s) Mr. Brendan Kennelly
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Instructions: Answer all 3 sections (300 Marks)
Section A (160 Marks), Section B (80 Marks)
Section C (60 Marks)

Specific instructions are given for each section. The answers to Section C should be written on the first page of your answer book.

Duration 3 hours
No. of Pages 8 including cover page
Department(s) Economics
Course Co-ordinator(s) Mr. Stephen McNena, St. Angela's College, Sligo

Requirements:

MCQ
Handout
Statistical Tables
Graph Paper
Log Graph Paper
Other Material

Section A (160 Marks)

Instructions: Each question is worth 16 marks. Answer **TEN** questions in this section.

1. Jack and Jane have rented a banquet hall to host a party in celebration of their wedding anniversary. One hundred people have accepted their invitation. Given that number, the caterers will charge €1,500 for food and €500 for drinks. The band will cost €500 for the evening and the hall costs €500. Jack and Jane are now considering inviting 20 more people. By how much will these extra guests increase the cost of their party?
2. The monthly demand for mobile phones is given by $P = 300 - 2Q$, where P is the price and Q is the number of phones purchased per month.
 - a. If the price of mobile phones is €200 how much revenue will mobile phone producers get each month?
 - b. Calculate the price elasticity of demand for phones when the price is €200.
 - c. Is demand elastic or inelastic? **Explain.**
 - d. If mobile phone producers want to increase total revenue should they increase or reduce the price of phones? **Explain your answer.**
3. The local tennis club charges €4 per hour for use of the courts. Your demand for hours on the tennis court is given by $P = 40 - 2Q$, where P is the price (€/hour) and Q is the quantity demanded (per year).
 - a. What is your consumer surplus?
 - b. What is the maximum annual membership fee you would be willing to pay to join this tennis club?
 - c. What would happen to your consumer surplus if the tennis club increased the hourly rate for use of the courts to €6?
4. You have €100 to spend on books and the composite good. Books cost €15 each but the bookstore is running a special offer and is giving a 33% discount once you buy more than four books. Draw your budget constraint for books and the composite good.
5. For each of the following situations, what happens to the beer market? Draw diagrams showing whether the demand curve or the supply curve shifts and, if so, in what direction. Show what happens to equilibrium price and quantity.
 - a. new research indicates that consumption of alcohol is linked to birth defects
 - b. the price of wine increases
 - c. the price of hops, used to produce beer, increases.
6.
 - a. Draw a simple diagram showing indifference curves for two goods that are perfect one-for-one substitutes.
 - b. Suppose skis and bindings are perfect one-for-one complements and that Paula spends all her equipment budget of €2,400 on these two goods. Skis and bindings cost €200 each. What will be the income and substitution effect of an increase in the price of skis to €400 each? Graphically illustrate your answer.

7. The market for DVDs has supply and demand curves given by $P = 2Q^s$ and $P = 45 - Q^d$, respectively.
 - a. What is the equilibrium price and quantity?
 - b. Draw the demand and supply curves.
 - c. Suppose the government now levies a tax of €3 on each DVD sold, collected from the seller. What quantity of DVDs will now be sold in equilibrium? Show your answer on the diagram you drew in part (b).
 - d. What price do buyers pay and sellers receive when the tax is imposed?
 - e. How much money goes to the government?
8. For John, coffee and tea are perfect substitutes: One cup of coffee is equivalent to one cup of tea. Suppose John has €90/mo to spend on these beverages, and coffee costs €0.90/cup while tea costs €1/cup. Find John's best affordable bundle of tea and coffee. Show this on a budget constraint/indifference curve diagram.
9.
 - a. Distinguish between accounting profit and economic profit.
 - b. What are the two conditions necessary for a profit maximizing firm when deciding the optimal amount to produce? Explain both conditions.
 - c. When should a competitive firm (a) shut down; and (b) exit the market? Explain your answer.
 - d. Draw a simple diagram for a perfectly competitive firm showing the marginal revenue (MR) curve, the short run average variable cost curve, the short run average total cost curve and the short run marginal cost curve. On this diagram highlight the firm's short run supply curve.
10.
 - a. List and explain three sources of monopoly.
 - b. List and explain three types of price discrimination.
 - c. Why would a monopoly price discriminate?
 - d. Assume a monopolist faces a constant marginal cost of production. Draw a simple diagram for this monopoly showing the demand curve, marginal revenue curve, average total cost curve and marginal cost curve. Show the profit maximizing level of price and output on your diagram and highlight the supernormal profits earned by the monopolist.
11. A monopolist has a demand curve given by $P = 100 - Q$ and the total cost curve is $TC = 16 + 4Q^2$. The corresponding marginal cost curve is $MC = 8Q$. Find the monopolist's profit maximizing quantity and price. How much economic profit does the monopolist earn?
12. A firm in a competitive market has a short run marginal cost curve $SMC = 10 + 4Q$ and a short run average variable cost curve $AVC = 10 + 2Q$. If the firm faces a price of 50 what quantity should it sell? At what level of fixed cost will this firm earn zero economic profit?
13. Suppose a monopolist sells in two separate markets, with demand curves given by $P_1 = 10 - Q_1$ and $P_2 = 20 - 2Q_2$ respectively. If her total cost curve is given by $TC = 5 + 2Q$ and marginal cost is given by $MC = 2$, what quantities should she sell and what prices should she charge in the two markets?

14. A firm purchases capital and labour in competitive markets at prices of $r = 6$ and $w = 4$, respectively. With the firm's current input mix, the marginal product of capital is 12 and the marginal product of labour is 18. Is this firm minimizing its costs? If so, explain how you know. If not, explain what the firm ought to do.

Section B (80 Marks)

Instructions: Each question is worth 40 marks. Answer **TWO** questions in this section.

Question 1

- List and fully explain three assumptions made about consumer preferences in the Theory of Rational Consumer Choice.
- Explain** and illustrate (on two separate diagrams) an indifference curve and a budget constraint.
- Explain what is meant by the marginal rate of substitution (MRS).
- What determines the slope of the budget constraint?
- Explain why indifference curves cannot intersect.
- Illustrate and explain why (in consumer theory) the optimal consumption bundle occurs at the point of tangency between the budget constraint and the highest attainable indifference curve.

Question 2

- Analyse fully the income and substitution effects of an increase in the price of a normal good.
- Draw an Engel curve for: (a) a normal good; and (b) an inferior good.
- What is a giffen good?
- Explain: (a) income elasticity of demand; and (b) cross price elasticity of demand. Are they positive or negative?
- Explain why the consumer price index overestimates inflation.

Question 3

- Explain the concept of the short run and long run in the theory of production and costs.
- Explain the concept of marginal product of an input.
- Explain the concept of diminishing marginal returns.
- Explain** and illustrate (on two separate diagrams) an isoquant and an isocost line.
- Explain what is meant by the marginal rate of technical substitution (MRTS).
- A firm uses two inputs labour (L) and capital (K) in its production process. The firm wishes to produce a level output Q_1 at minimum cost. Illustrate and explain the input bundle the firm should choose.

Question 4

- a. Explain each of the following types of costs
 - (i) Fixed cost (FC)
 - (ii) Average fixed cost (AFC)
 - (iii) Total cost (TC)
 - (iv) Marginal cost (MC)
- b. Draw one diagram showing a typical fixed cost curve, a typical short run variable cost curve and a typical short run total cost curve.
- c. What happens to average fixed cost (AFC) as the level of output increases? Illustrate and explain your answer.
- d. If a firm enjoys increasing returns to scale what would its map of isoquants look like and why? Illustrate your answer.
- e. Illustrate and explain the relationship between marginal product (MP) and marginal cost (MC) in the short run.

Section C (60 Marks)

Instructions: Answer ALL multiple choice questions

1. If income rises
 - a. the demand curve will shift right
 - b. the demand curve will shift left
 - c. the demand curve will stay the same since only price affects it
 - d. one cannot tell which way demand shifts with the information given.
2. If the number of suppliers in the microcomputer industry increases, what would we expect to happen?
 - a. the number of microcomputer sold will rise
 - b. the price of microcomputers will fall
 - c. the supply curve will shift out
 - d. movement along the demand curve will occur
 - e. All of the above will happen
3. Bundles that lie above the indifference curve are preferred to bundles that lie below. This is an example of
 - a. transitivity
 - b. completeness
 - c. more is better
 - d. none of the above
4. A decrease in income with no change in the price of either good will cause
 - a. an inward shift of the budget constraint
 - b. an outward shift of the budget constraint
 - c. an inward rotation of the budget constraint
 - d. an outward rotation of the budget constraint

5. The cross-price elasticity of demand for complements is
 - a. positive
 - b. negative
 - c. zero
 - d. infinite
6. For the demand function $P = 24 - 6Q$
 - a. demand is inelastic at price 16
 - b. demand is unit elastic at price 12
 - c. total revenue is maximised at price 12
 - d. demand is elastic at price 12
 - e. b and c above
7. A production function for which proportional changes in all inputs leads to a more-than-proportional change in output is said to exhibit
 - a. diminishing returns
 - b. decreasing returns to scale
 - c. constant returns to scale
 - d. increasing returns to scale
8. The isoquant mapping for perfect complements is
 - a. L shaped
 - b. a straight line
 - c. convex
 - d. concave
 - e. none of the above
9. The substitution effect of a price increase is
 - a. always negative
 - b. always positive
 - c. positive or negative depending on the type of good
 - d. none of the above
10. If the benefits of $X = €50$ and the cost of $X = €100$ then,
 - a. do X
 - b. don't do X
 - c. whether or not one does X has no effect on well being
 - d. not enough information has been given
11. You decide to go Dublin this weekend to see a play. It costs €40 for transportation, €60 for accommodation and €30 for the ticket to the play and you could have earned €100 as a waiter at a job you love so much you would do it as a volunteer. What is the total cost of going to Dublin for the weekend?
 - a. €230
 - b. €130
 - c. €100
 - d. €80

12. The short run total cost of zero output is equal to
- variable cost
 - fixed cost
 - zero
 - the marginal product of labour
13. Output for a simple production process is given by $Q = 2KL$, where K denotes capital, and L denotes labour. The price of capital is €25 per unit and capital is fixed at 8 units in the short run. The price of labour is €5 per unit. What is the total cost of producing 80 units of output?
- €525
 - €200
 - €225
 - €185
 - none of the above
14. What is the fixed cost in problem 13 above?
- €200
 - €33
 - €25
 - €85
15. At zero units of output variable cost (VC) is
- zero
 - infinite
 - equal to marginal cost
 - none of the above
16. Which of the following is **not** a condition for perfect competition?
- firms are price takers
 - firms sell a standardised product
 - barriers to entry exist
 - firms have perfect information
17. In general economists assume that firms
- maximize accounting profit
 - maximize economic profit
 - maximize sales
 - none of the above
18. In the long run for a competitive firm
- the firm is at the bottom of its short run average cost curve
 - the firm is at the bottom of its long run average cost curve
 - marginal cost equals price
 - all of the above

19. A profit maximising monopolist faces the following information:

$P = €10$, $MR = €5$, $MC = €5$, $ATC = €6$. The firm should

- a. shut down
- b. increase output
- c. decrease output
- d. stay at its current level of output

20. The supply curve for a monopolist

- a. is upward sloping
- b. is vertical
- c. does not exist
- d. none of the above