ECON 110: Introductory Economics

Exam 2, Section 11, FALL 2026

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This exam covers Chapters 10, 11, 14, 15, and 16. It is worth 70 points.

Instructions

- This exam consists of 10 true or false questions, 15 multiple choice questions, 1 graphing question, and 1 short essay question.
- You will have a maximum of 60 minutes to complete this exam. No additional time may be taken without prior accommodation.
- Show all work to receive full credit.
- Calculators are permitted.
- For questions requiring computation, express your final answer with 2 decimal places.
- Every graph you draw must have both axes labeled and every curve labeled.
- Scratch paper is provided at the end of this exam. If you plan to use this extra page for your final answers, please write your name and student ID at the top so it is not lost.

Name:

Student ID:

Part I: True or False [2 points each, 20 points total]

Circle **T** if the statement is true and **F** if the statement is false. You do not need to explain your answer.

TF 1

T / F A technology spillover is a type of negative externality.

TF 2

T / F When firms internalize a negative externality, the market supply curve shifts to the left.

TF 3

T / F The free-rider problem makes it unlikely that poverty will be entirely eliminated through private charity.

TF 4

T / F Aristotle writes, "What is common to many is taken least care of, for all men have greater regard for what is their own than for what they possess in common with others." In this statement, Aristotle is referring to the free-rider problem.

TF 5

T / F Variable costs equal fixed costs when nothing is produced.

TF 6

T / F If the marginal cost of producing the tenth unit of output is $3, and if the average total cost of producing the tenth unit of output is $2, then at ten units of output average total cost is rising.

TF 7

T / F A firm operating in a competitive market will stay in business in the short run so long as the market price exceeds the firm's average total cost; otherwise, the firm will shut down.

TF 8

T / F Firms operating in perfectly competitive markets produce the output level at which marginal revenue equals marginal cost.

TF 9

T / F Copyrights and patents are examples of barriers to entry that give firms monopoly pricing power.

TF 10

T / F Price discrimination is prohibited by antitrust laws.

Part II: Multiple Choice [2 points each, 30 points total]

Circle the single best answer for each question. You do not need to explain your answer.

MC 1

When an externality is present, the market equilibrium is

a) efficient, and the equilibrium maximizes the total benefit to society as a whole.

b) efficient, but the equilibrium does not maximize the total benefit to society as a whole.

c) inefficient, but the equilibrium maximizes the total benefit to society as a whole.

d) inefficient, and the equilibrium does not maximize the total benefit to society as a whole.

MC 2

When Jordan flies a drone for recreational purposes in a public park, he unknowingly disturbs nearby pedestrians. In this case, the external cost of Jordan's drone usage

a) increases the social cost above the private cost.

b) lowers the social cost below the private cost.

c) increases the social value above the private benefit.

d) decreases the social value below the private benefit.

MC 3

Which of the following statements about urban rooftop gardens best conveys the general nature of the externality?

a) An urban rooftop garden conveys a positive externality because it improves the air quality of the building.

b) An urban rooftop garden conveys a negative externality because it increases maintenance costs for the building owner.

c) An urban rooftop garden conveys a positive externality because it increases the value of adjacent properties in the neighborhood.

d) An urban rooftop garden cannot provide any type of externality.

MC 4

Goods that are excludable include both

a) club goods and public goods.

b) public goods and common resources.

c) common resources and private goods.

d) private goods and club goods.

MC 5

The provision of a public good generates a

a) positive externality, as does the use of a common resource.

b) positive externality, and the use of a common resource generates a negative externality.

c) negative externality, as does the use of a common resource.

d) negative externality, and the use of a common resource generates a positive externality.

MC 6

A publicly posted online video is an example of a good that is

a) private.

b) not rival in consumption.

c) social.

d) excludable.

MC 7

If a firm produces nothing, which of the following costs will be zero?

a) Total cost

b) Fixed cost

c) Opportunity cost

d) Variable cost

MC 8

Taylor's Tent Company has total fixed costs of $300,000 per year. The firm's average variable cost is $80 when it produces 10,000 tents. At that level of output, the firm's average total cost equals

a) $80.

b) $90.

c) $100.

d) $110.

MC 9

As Bubba's Bubble Gum Company adds workers while using the same amount of machinery, some workers are underutilized because they have little to do while waiting in line to use the machinery. When this occurs, Bubba's Bubble Gum Company encounters

a) economies of scale.

b) diseconomies of scale.

c) increasing marginal product.

d) diminishing marginal product.

MC 10

Suppose a firm in a competitive market produces and sells 150 units of output and earns $1,800 in total revenue from those sales. If the firm increases its output to 200 units, the average revenue of the 200th unit will be

a) less than $12.

b) more than $12.

c) $12.

d) zero.

MC 11

Which of the following statements is correct?

a) For all firms, marginal revenue equals the price of the good.

b) Only for competitive firms does average revenue equal the price of the good.

c) Marginal revenue can be calculated as total revenue divided by the quantity sold.

d) Only for competitive firms does average revenue equal marginal revenue.

MC 12

A profit-maximizing firm in a perfectly competitive market chooses the quantity at which

a) average total cost is minimized.

b) total revenue is maximized.

c) price equals marginal cost.

d) price equals average variable cost.

MC 13

When an industry is a natural monopoly,

a) it is characterized by constant returns to scale.

b) it is characterized by diseconomies of scale.

c) a larger number of firms may lead to a lower average total cost.

d) a larger number of firms will lead to a higher average total cost.

MC 14

Which of the following is a necessary characteristic of a monopoly?

a) The firm is the sole seller of its product.

b) The firm's product has many close substitutes.

c) The firm generates a large economic profit.

d) The firm is located in a small geographic market.

MC 15

Granting a pharmaceutical company a patent for a new medicine will lead to

a) a product that is priced higher than it would be without the exclusive rights.

b) reduced incentives for pharmaceutical companies to invest in research and development.

c) lower quantities of output than would occur if the drug were never invented.

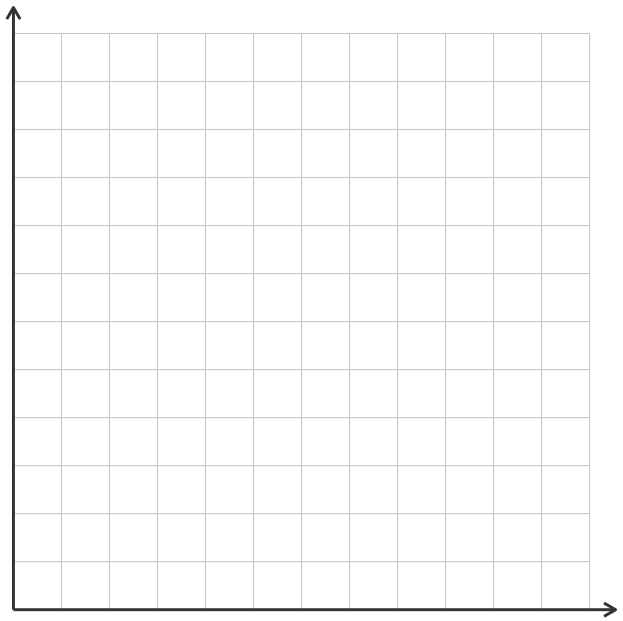
d) lower prices than without the patent.

Part III: Graphing [12 points total]

Question 1: Monopoly Pricing [12 points]

A monopolist is the sole producer of a patented insulin pump. The firm faces the demand curve $P = 120 - 2Q$, where P is the price in dollars and Q is the quantity in thousands of units. Its marginal revenue curve is $MR = 120 - 4Q$. The firm produces at a constant marginal cost of \$40 per unit and has no fixed costs.

a) On the axes below, draw and label the demand curve, the marginal revenue curve, and the marginal cost curve. [3 points]



b) Find the profit-maximizing quantity and the price the monopolist charges. Mark both on your graph. [3 points]

c) Compute the monopolist's profit. [2 points]

d) What quantity and price would prevail if this market were instead perfectly competitive? [2 points]

e) On your graph, shade and label the deadweight loss of the monopoly. Compute its area. [2 points]

Part IV: Short Essay [8 points total]

Question 2: The Firm's Shutdown Decision [8 points]

Bayview Bakery operates in a perfectly competitive market. At its current output of 800 loaves, the firm's average total cost is \$4.50 per loaf, its average variable cost is \$3.25 per loaf, and the market price is \$3.00 per loaf.

a) Is the firm earning a profit or a loss? Compute the amount. [3 points]

b) Should the firm shut down in the short run? Justify your answer with a comparison of the losses under each option. [3 points]

c) If this situation persists into the long run, what will the firm do, and what will happen to the market price? Explain. [2 points]

END OF EXAM

Scratch Paper

You may remove this sheet and discard it after the exam. If you use it for any of your final answers, write your name and student ID at the top of the page so that it is not lost.

Scratch Paper