



COLLEGE OF BUSINESS AND MANAGEMENT SCIENCES

NMEC 101: ECONOMIC PRICIPLES 1

END OF SEMESTER EXAMINATIONS

NOVEMBER 2024

LECTURER: MR T MASESE

TIME: 3 HOURS

INSTRUCTIONS TO CANDIDATES

1. Answer SECTION A and any THREE questions from Section B
2. All questions carry equal marks
3. Start each question on a new page.
4. Show all workings where applicable

SECTION A: MULTIPLE CHOICE QUESTIONS

(For this section, write down the question number and the corresponding letter representing the right answer e.g. 1. A, 2.B, etc).

1. Which one of the following is not an assumption for a PPC?
 - A. Full employment- the economy is employing all its available resources.
 - B. Fixed resources -the quantity and quality of the factors of production are fixed.
 - C. Two goods- the economy is producing only two goods
 - D. Trade- a country is trading with two other countries
 - E. Fixed technology- the state of technology (the methods used to produce output) is constant.
2. Demand curve for a product is down sloping because
 - A. Producers offer less of a product for sale as the price of the product falls.
 - B. The larger the number of buyers in a market, the lower the product price.
 - C. Price and quantity demanded are directly (positively) related.
 - D. Lower prices of a product create income and substitution effect that lead consumers to purchase more of it.
3. Suppose the cross elasticity of demand for products A and B is +3.6 and for products C and D is -5.4. Which one of the following statements is not correct
 - A. Products A and B are substitutes
 - B. Products C and D are compliments
 - C. The relationship between A and C is unknown
 - D. The price elasticity of demand for products A and B is +3.6
4. Imagine that the country of Botswana can produce just two kinds of goods: capital goods and services. Assume that over a given period it could produce any of the following combinations:

Societal Choice	A	B	C	D	E	F	G	H	I	J	K
Capital Goods	0	10	20	30	40	50	60	70	80	90	100
Consumption Goods	80	79	77	74	70	65	58	48	35	19	0

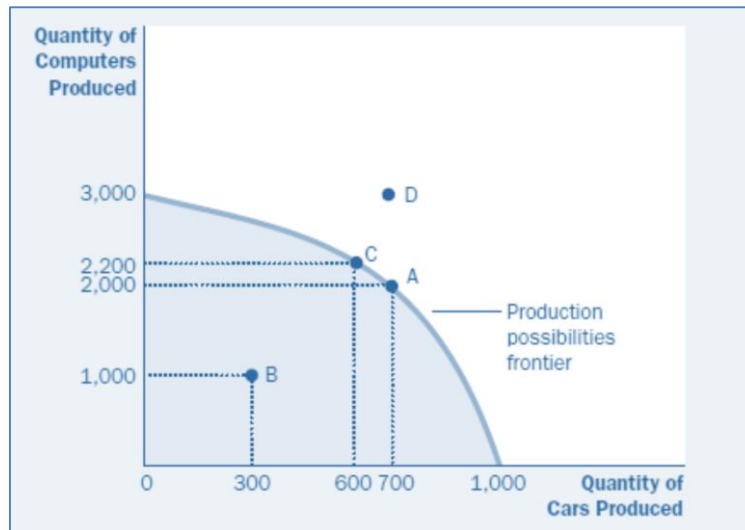
At point E, the opportunity cost of producing one more unit of consumption goods is

- A. 5 units of capital goods
 - B. 4 units of capital goods
 - C. 10 more units of capital goods
 - D. 2.5 units of capital goods
 - E. None of the above
5. Assume that demand for a commodity is represented by the equation $P = 10 - 0.2Q_d$ and supply by the equation $P = 2 + 0.2Q_s$, where Q_d and Q_s are quantity demanded and quantity supplied, respectively, and P is price. Using the equilibrium condition $Q_s = Q_d$, the equilibrium price and equilibrium quantity respectively for this commodity is:
 - A. $P = 2$ and $Q = 10$

- B. $P = 4$ and $Q = 20$
 - C. $P = 5$ and $Q = 10$
 - D. $P = 6$ and $Q = 20$
 - E. None of the above
6. The price of a product will increase if:
- A. supply of the product increases
 - B. the price of a complement increases
 - C. if there is a surplus of the product
 - D. demand for the product increases
 - E. none of the above.
7. A good can be seen as inferior if:
- A. a reduction in the price of the good leads to an increase in the quantity of that goods consumers wish to purchase
 - B. an increase in income leads to an increase in the demand for the good
 - C. the good is seen as being of low quality
 - D. an increase in the price of the good leads to a reduction in the quantity of the good consumers wish to purchase.
 - E. an increase in income leads to a reduction in the demand for the good
8. In terms of the table below, if a price of \$4 is charged:

Price €	Quantity demanded	Quantity supplied
1	1,200	200
2	1,000	400
3	800	600
4	600	800
5	400	1,000
6	200	1,200

- A. the market will be in equilibrium situation
 - B. there will be a shortage of 200 units
 - C. the price of the good will tend to rise
 - D. there will be a surplus of 200 units
 - E. none of the above.
9. The production possibilities frontier shows the combinations of output-in this case, cars and computers -that the economy can possibly produce.



The opportunity cost of moving from choice C to A on the PPF above is

- A. 2000 computers
- B. 1200 computers
- C. 2200 computers
- D. 200 cars

10. Which respective points in the diagram in **Question 9** illustrates scarcity because it is not attainable and unemployment because resources are not fully utilized?

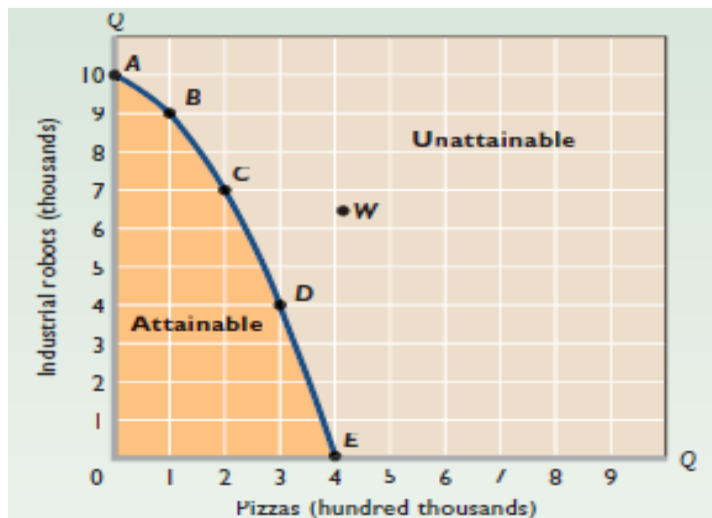
- A. Point A and C
- B. Point B and C
- C. Point C and D
- D. Point D and B
- E. None of the above

11. In terms of the table below, the market demand at a price of \$3 is:

Price Per Unit (\$)	Quantity Demanded		
	Joe	Jen	Jay
5	10	12	8
4	20	23	17
3	35	39	26
2	55	60	39
1	80	87	54

- A. 30
- B. 154
- C. 100
- D. 60

12. The difference between an increase in demand and an increase in quantity demanded is
- An increase in demand is caused by a reduction in the price and an increase in quantity demanded is caused a favorable change in conditions of demand
 - An increase in demand is caused by an increase in the price and an increase in quantity demanded is caused a favorable change in conditions of demand
 - An increase in demand is caused by an increase in the price and an increase in quantity demanded is caused a favorable change in conditions of demand
 - An increase in demand is caused by a favorable change in conditions of demand and an increase in quantity demanded is caused by a decrease in the price.
13. The following graph shows the production possibilities curve for country A:



- Production possibilities curve *ABCDE* is bowed out from the origin because:
- The marginal benefit of pizzas declines as more pizzas are consumed.
 - The curve gets steeper as we move from *E* to *A*.
 - Resources are scarce.
 - It reflects the law of increasing opportunity costs
 - None of the above
14. Given the graph in the above question, **all** points on this production possibility curve necessarily represent:
- Less than full use of resources.
 - Unattainable levels of output.
 - Unemployment
 - Society's optimal choice
15. A price increase from \$10 to \$20 causes the quantity demanded to fall from 10 to 8 units per week. The price elasticity of demand is
- 0.2 and demand is elastic
 - 0.5 and demand is inelastic
 - 0.5 and demand is elastic
 - 0.2 and demand is inelastic
 - None of the above
16. Which one of the following is not a determinant of the price elasticity of demand?
- Availability of close substitutes are available and time.

- B. Whether the product is a luxury or a necessity
 - C. Buyers are slow to change their buying habits and search for lower prices
 - D. Product stage
 - E. Distinctiveness of the product
17. If a small percentage drop in the price of a good leads to a large percentage increase in the quantity of that good demanded, then:
- A. demand is inelastic
 - B. demand is unit elasticity
 - C. demand is perfectly inelastic
 - D. demand is elastic
 - E. demand is perfectly elastic.
18. A rise in the price of product Y from \$50 to \$54 has resulted in the demand for product X increasing from 100 to 104 units per month. The cross elasticity of demand is:
- A. 0.2
 - B. 2.0
 - C. 1.0
 - D. 0.5
 - E. 2.4
19. Which *one* of the following is a characteristic of a sole trader?
- A. Limited liability
 - B. Economies of scale
 - C. Ease of access to capital
 - D. Unlimited liability
 - E. None of the above
20. Which *one* of the following is a characteristic of a public limited company (plc)?
- A. Unlimited liability
 - B. Potential lack of continuity of business
 - C. Cannot sell shares to the general public
 - D. Its shares can be traded on the Stock Exchange
 - E. None of the above.
21. If the marginal product of labour is less than the average product of labour then:
- A. the average product of labour is increasing
 - B. the marginal product of labour is increasing
 - C. the average product of labour is at its maximum
 - D. the average product of labour is decreasing
 - E. the total product curve is negatively sloped.
22. An isoquant curve reveals:
- A. the various amounts of capital and output, with a fixed amount of labour
 - B. the various amounts of labour and capital required in order to produce an increased level of output
 - C. the various amounts of labour and capital required in order to produce a reduced level of output

- D. the various amounts of labour and capital required in order to produce the same level of output
 - E. none of the above.
23. If a firm remains on the same isoquant it means that:
- A. output must decrease
 - B. output must increase
 - C. the quantity of labour and capital employed must stay the same
 - D. output must stay the same
 - E. none of the above.
24. Which of the following could shift the demand curve for the Toyota car to the right?
- A. A reduction in the population
 - B. A decrease in the price of the Honda Fit, a substitute
 - C. An increase in the price of the Toyota
 - D. An increase in income
 - E. An increase in the price of fuel, a complement
25. If the cross elasticity of demand between two goods X and Y is positive, then:
- A. the two goods are complements
 - B. the demand for the two goods is price inelastic
 - C. the demand for the two goods is price elastic
 - D. the two goods are substitutes
 - E. none of the above.

SECTION B

Question 1

- a. According to a recent research by Liquid Internet Solutions, an internet service provider in Zimbabwe, when the price of broadband access capacity (the amount of information one can send and receive over an Internet connection) increases by 10%, commercial customers buy about 3.8% less capacity. What is the elasticity of demand for broadband access capacity for firms? Comment on the price elasticity at the current price **(5 marks)**
- b. ZINWA found that a 100% increase in the price of water for heavy users in Mutare City, caused the quantity of water they demanded to fall by an average of 20%. (Before the increase, heavy users initially paid \$1.55 per unit, but afterward they paid \$3.14 per unit.) In percentage terms, how much did their water expenditure (price times quantity)—which is the water company's revenue—change? **(5 marks)**
- c. What are the determinants of demand? What happens to the demand curve when any of these determinants change? Using a demand-supply diagram, illustrate this with a change in income. Distinguish between a change in demand and a change in the quantity demanded, noting the cause(s) of each **(15 marks)**

Question 2

- a. Consumers react differently to price changes depending on their sensitivity and this affects pricing decisions and revenues of firms. With relevant examples, discuss the major determinants of consumer sensitivity (elasticity) to price changes, prices of other products, changes in incomes among consumers. How does knowledge of elasticity influence marketing and economic decisions of managers in firms? **(20 marks)**
- b. A profit maximizing firm has an average total cost of \$10 but gets a price of \$8 for each item it sells. What would you advise the firm to do if (a) its variable cost is \$9? (b) its variable cost is \$7? **(5 marks)**

Question 3

- a. Suppose that the inverse demand function for movies is $p = 40 - Q_1$ for college students and $p = 40 - 2Q_2$ for other town residents. What is the town's total demand function in terms of p ? Use a diagram to illustrate your answer **(3 marks)**
- b. The Teenager Company makes and sales skateboards at an average price of \$70 each. Over the past year they sold 4000 of these skateboards. The company believes that the

price elasticity of demand is about -2.5. If it decreases the price to \$63, what should be the quantity sold? Will revenue increase? Why? **(4 marks)**

- c. Outline the relationship between total, average and marginal revenue. With the use of a diagram, outline what is meant by profit maximisation **(6 marks)**
- d. Why is it possible for a monopolist to earn supernormal profit in the long run? What are the main barriers to entry for monopolists? **(7 marks)**
- e. Outline what is meant by economies and diseconomies of scale and how they affect the shape of the long-run average cost curve. **(5 marks)**

Question 4

- a. Why is a firm in a perfectly competitive market said to be a 'price taker'? Distinguish between the short-run and long-run equilibrium in perfect competition. **(5 marks)**
- b. Outline the assumptions necessary for price discrimination to take place. With the aid of proper diagrams, distinguish between first, second and third degree price discrimination **(10 marks)**
- c. Define the terms 'isoquant' and 'isocost'. What is meant by the least-cost process of production? **(5 marks)**
- f. The ABC Co manufactures AM/FM clock radios and sells on average 3000 units monthly at \$25 to retail stores. Its closest competitor produces a similar type of radio that sells for \$28.
 - i. If the demand for ABC's product has an elasticity coefficient of -2.5, how much will it sell per month if the price is lowered to \$22? **(3 marks)**
 - ii. The competitor decreases its price to \$24. If the cross-elasticity between the two radios is 0.3, what will ABC's monthly sales be? **(2 marks)**

Question 5

- a. A profit maximizing firm has an average total cost of \$10 but gets a price of \$8 for each item it sells. What would you advise the firm to do if (a) its variable cost is \$9? (b) its variable cost is \$7? **(5 marks)**
- b. A firm has fixed costs of \$60 and variable costs as indicated in the table below.

Total Product	Total Fixed Cost	Total Variable Cost	Total Cost	Average Fixed Cost	Average Variable Cost	Average Total Cost	Marginal Cost
0	\$ _____	\$ 0	\$ _____			\$ _____	\$ _____
1	_____	45	_____	\$ _____	\$ _____	_____	_____
2	_____	85	_____	_____	_____	_____	_____
3	_____	120	_____	_____	_____	_____	_____
4	_____	150	_____	_____	_____	_____	_____
5	_____	185	_____	_____	_____	_____	_____
6	_____	225	_____	_____	_____	_____	_____
7	_____	270	_____	_____	_____	_____	_____
8	_____	325	_____	_____	_____	_____	_____
9	_____	390	_____	_____	_____	_____	_____
10	_____	465	_____	_____	_____	_____	_____

- Complete the table and graph total fixed cost, total variable cost, and total cost. **(10 marks)**
- Explain how the law of diminishing returns influences the shapes of the variable-cost and total-cost curves. **(2 marks)**
- Graph AFC, AVC, ATC, and MC. Explain the derivation and shape of each of these four curves and their relationships to one another. Specifically, explain in nontechnical terms why the MC curve intersects both the AVC and the ATC curves at their minimum points **(8 marks)**

Question 6

- Gomez runs a small pottery firm in Burundi. He hires one helper at \$12,000 per year, pays annual rent of \$5000 for his shop, and spends \$20,000 per year on materials. He has \$40,000 of his own funds invested in equipment (pottery wheels, kilns, and so forth) that could earn him \$4000 per year if alternatively invested. He has been offered \$15,000 per year to work as a potter for a competitor. He estimates his entrepreneurial talents are worth \$3000 per year. Total annual revenue from pottery sales is \$72,000. Calculate the accounting profit and the economic profit for Gomez's pottery firm. **(6 marks)**
- What are economic resources? What categories do economists use to classify them? Why are resources also called factors of production? Why are they called inputs? How are owners of different inputs rewarded? **(7 marks)**
- What are the main characteristics of a perfectly competitive market? With the aid of a diagram show the short run equilibrium for a perfectly competitive firm making an above-normal profit. Why would this firm not be able to continuously maintain the profit in the long run? **(7 marks)**

- d. Discuss the major barriers to entry into an industry. Explain how each barrier can foster either monopoly or oligopoly. Which barriers, if any, do you feel give rise to monopoly that is socially justifiable? **(5 marks)**

END OF EXAMINATION
