

**NATIONAL UNIVERSITY OF LESOTHO**

**B.A. EXAMINATIONS**

**EC 1401 – INTRODUCTORY MICROECONOMICS**

**JANUARY 2024**

**100 Marks**

**TIME: 3 Hours**

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**INSTRUCTIONS:**

1. Answer **all questions in** Section A and **any two questions** from Section B
2. Section A carries 50 marks
3. Each question in section B carries 25 marks
4. Show all workings clearly in the answer sheet

## SECTION A

### A MULTIPLE - CHOICE QUESTION [COMPULSORY]

- 1. The inflection point is a point where;**
  - a) Average product is maximum
  - b) Total product is maximum
  - c) Marginal product is maximum
  - d) None of the above
- 2. Which of the following is characteristic of a perfectly competitive firm's demand curve?**
  - a) Price and marginal revenue are equal at all levels of output
  - b) Average revenue is less than price
  - c) Its price elasticity of demand = 1 at all levels of output
  - d) It is the same as the market demand curve

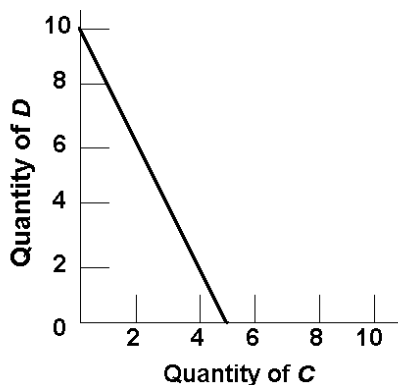
Use the information in the Table 1 below to answer question 4.

**Table 1: Costs for Company A**

Output	AFC [in Maloti]	AVC [in Maloti]
1	50.00	100.00
2	25.00	80.00
3	16.67	66.67
4	12.50	65.00
5	10.00	68.00
6	8.37	73.33
7	7.14	80.00
8	6.25	87.50

- 3. Total fixed cost is:**
  - a) M6.25
  - b) M100.00
  - c) M150.00
  - d) M50.00

Use the diagram below to answer question 4.



**4. A decrease in the prices of both products C and D, ceteris paribus:**

- a) Shifts the budget line outward on the horizontal axis, but leaves it anchored at "10" on the vertical axis
- b) Shifts the budget line to the left
- c) Shifts the budget line to the right
- d) Has no effect on the budget line

**5. An increase in the price of product A:**

- a) Increases the marginal utility per loti spent on A
- b) Decreases the marginal utility per loti spent on A
- c) Does not affect the marginal utility per loti spent on A
- d) Causes utility-maximizing consumers to buy more of A

**6. The law of diminishing marginal returns states that:**

- a) As extra units of a variable resource are added to a fixed resource, the marginal product declines beyond some level of employment of the variable resource
- b) A competitive firm's long-run average total cost curve is U-shaped because of economies and diseconomies of scale
- c) The demand for goods produced by perfectly competitive industries is downward sloping
- d) Beyond some level of consumption, the extra utility derived from additional units of a product yields the consumer smaller and smaller extra amounts of satisfaction

**7. Total fixed cost (TFC):**

- a) Falls as the firm expands output from zero, but eventually rises
- b) Falls continuously as total output expands
- c) Varies directly with total output
- d) Does not change as total output increases or decreases.

**Use the information in Table 2 below to answer question 8.**

**Table 2: Costs for Company B**

<b>Output</b>	<b>ATC [ in Maloti]</b>
1	40.00
2	27.00
3	29.00
4	31.00
5	38.00

**8. If the total fixed costs for the firm are M10.00, the profit-maximizing level of output for this firm:**

- a) Is 3
- b) Is 4
- c) Is 5
- d) Cannot be determined from the information given

**Use the information in Table 3 below to answer question 9.**

**Table 3: Output for Company C**

<b>Labour</b>	<b>TP</b>	<b>MP</b>
0	0	-
1	8	8
2	-	10
3	25	
4	30	
5	-	3
6	34	

**9. When two workers are employed:**

- a) Total product is 20
- b) Total product is 18
- c) Average product is 10
- d) Total product cannot be determined from the information given

**10. Utility is:**

- a) The ability of a good or a service to satisfy a person's wants.
- b) A theory of moral philosophy.
- c) The measure of surplus gained by a consumer.
- d) The gain to a consumer when buying a good for less than it is worth.

**11. The law of diminishing marginal utility states that:**

- a) The utility gained from a good or a service decreases over time.
- b) The marginal utility gained from a good or a service decreases as more of it is consumed.
- c) The utility gained from a good or a service declines as its cost increases.
- d) The utility gained from a good or a service depends on the necessity of the good.

**12. A budget line shows:**

- a) The different goods a consumer can buy if he/she buys poor quality budget goods.
- b) The different combinations of two goods that a consumer can afford with his/her income.
- c) The different goods and services that would be purchased in an economy as incomes rise.
- d) The total tax a government can raise for the national budget according to different forecasts.

**13. Jack states that he likes hamburgers twice as much as hotdogs. He is using:**

- a) Cardinal utility evaluation.
- b) Ordinal utility evaluation.
- c) Consumer surplus.
- d) Producer surplus.

**14. Angela states that she likes pancakes more than muffins, but cannot say how much. She is using:**

- a) Cardinal utility evaluation.
- b) Ordinal utility evaluation.
- c) Consumer surplus.
- d) Producer surplus.

**15. In indifference analysis the assumption of completeness states that the consumer:**

- a) Is able to place all combinations of goods and services in some order of preference.
- b) Is consistent. (If A is preferred to B, and B to C, C cannot be preferred to A.)
- c) Will always prefer more of a good to less.
- d) Will always act hyper-rationally.

**16. In indifference analysis the assumption of transitivity states that the consumer:**

- a) Is able to place all combinations of goods and services in some order of preference.
- b) Is consistent. (If A is preferred to B, and B to C, then C cannot be preferred to A.)
- c) Will always prefer more of a good to less.
- d) Will always act hyper-rationally.

**17. In indifference analysis the assumption of non-satiability states that the consumer:**

- a) Is able to place all combinations of goods and services in some order of preference.
- b) Is consistent. (If A is preferred to B, and B to C, then C cannot be preferred to A.)
- c) Will always prefer more of a good to less.
- d) Will always act hyper-rationally.

**18. A short run production function assumes:**

- a) That only one variable input can be changed.
- b) That both fixed and variable inputs can be changed.
- c) That there is free trade.
- d) That capital is variable.

**Use the following Table 4 to answer questions 19 and 20.**

**Table 4: Output for Company D**

<b>Labour</b>	<b>TP</b>
1	50
2	110
3	140
4	160
5	170
6	160

**19. What is the marginal product of the 5<sup>th</sup> unit of labour?**

- a) 30
- b) 10
- c) -10
- d) -15

**20. When does the law of diminishing returns set in?**

- a) 1<sup>st</sup> unit of labour
- b) 3<sup>rd</sup> unit of labour
- c) 5<sup>th</sup> unit of labour
- d) 4<sup>th</sup> unit of labour

Use the information in Table 5 below, for a perfectly competitive firm, to answer question 21.

**Table 5: Production Costs for Firm E**

Output	Total Cost [in Maloti]
0	50
1	90
2	120
3	140
4	170
5	210
6	260
7	330

**21. If product price is M60.00, the firm will:**

- a) Shut down
- b) Produce 4 units and realize an economic profit of M120.00
- c) Produce 6 units and realize an economic profit of M100.00
- d) Produce 3 units and make an economic loss of M40.00

**22. If a firm is making economic losses in the short-run, it will decide whether or not to produce by comparing:**

- a) Marginal revenue and marginal cost
- b) Price and minimum average variable cost
- c) Total revenue and total cost
- d) Total revenue and total fixed cost

**23. Given a downward sloping demand curve and an upward sloping supply curve for a product, an increase in consumer income:**

- a) Increases equilibrium price and quantity if the product is a normal good
- b) Decreases equilibrium price and quantity if the product is a normal good
- c) Has no effect on equilibrium price and quantity
- d) Reduces the quantity demanded, but not shift the demand curve

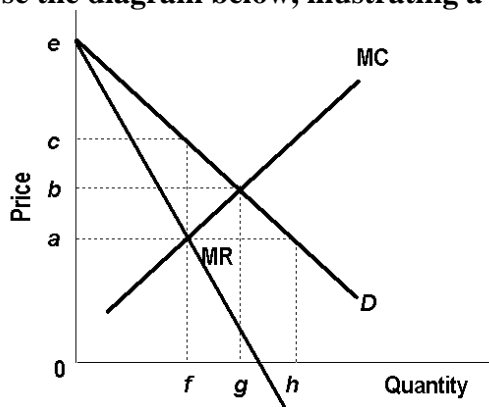
**24. Which of the following can be classified as capital in Economics?**

- a) The amount of money in Mrs. Molupe's savings account.
- b) A truck owned by Kou Transport Company.
- c) An amount of money used to start a business.
- d) The building that houses the Chief Executive Officer of Standard Lesotho Bank in Maseru.

**25. If a price ceiling is set above the equilibrium price:**

- a) A shortage of the product will occur
- b) A surplus of the product will occur
- c) An illegal market will evolve
- d) There will be no effect on the equilibrium price and quantity

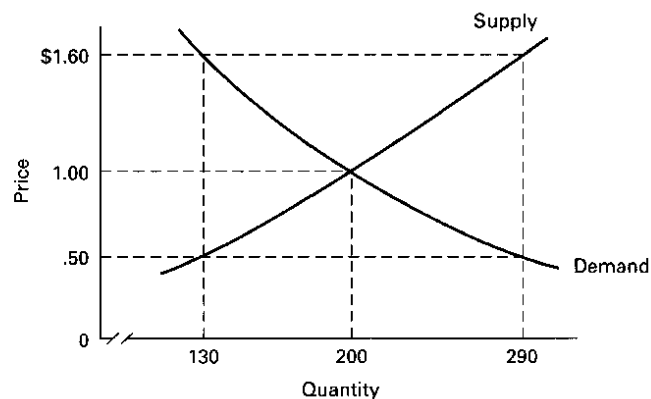
Use the diagram below, illustrating a monopoly firm, to answer question 26.



26. The monopoly price is:

- a) e
- b) c
- c) b
- d) a

Use the diagram below to answer question 27.



27. There is a shortage of 160 units if the price is:

- a) M1.10, that is, M1.60 minus M0.50
- b) M1.60
- c) M1.00
- d) M0.50

28. Product A is an input in the production of product B, and product B is a complement to product C. Therefore, a decrease in the price of A:

- a) Increases the supply of B and increases the demand for C
- b) Decreases the supply of B and increases the demand for C
- c) Decreases the supply of B and decreases the demand for C
- d) Increases the supply of B and decreases the demand for C

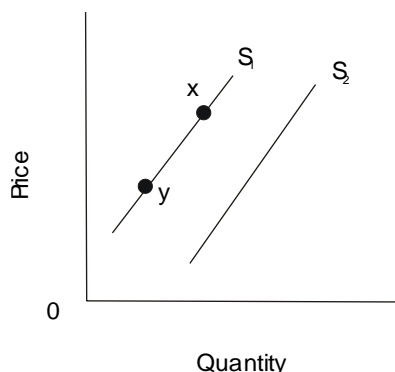
29. The income elasticity of demand for fish is +2.00. This means that:

- a) Fish is an inferior good
- b) A 10 percent increase in income will increase the demand for fish by 2 percent
- c) A 10 percent increase in income will decrease the demand for fish by 20 percent
- d) A 10 percent increase in income will increase the demand for fish by 20 percent

**30. A 10 percent increase in the price of normal good Y causes a 20 percent increase in the quantity demanded of normal good X. The value of the cross-price elasticity of demand is:**

- a) Negative and therefore these goods are substitutes
- b) Negative and therefore these goods are complements
- c) Positive and therefore these goods are substitutes
- d) Positive and therefore these goods are complements

**Use the following diagram to answer question 31.**



**31. An increase in supply is depicted by a:**

- a) Movement from point x to point y
- b) A shift from  $S_1$  to  $S_2$
- c) Shift from  $S_2$  to  $S_1$
- d) Movement from point y to point x

**32. The price of oil increased by a large amount in 2000. This caused the price of natural gas to increase. This relationship can best be explained by saying that oil and natural gas are:**

- a) Complementary goods and the higher price for oil increased the demand for natural gas
- b) Substitute goods and the higher price for oil increased the demand for natural gas
- c) Complementary goods and the higher price for oil decreased the supply of natural gas
- d) Substitute goods and the higher price for oil decreased the supply of natural gas

**33. Assume that a consumer purchases products A, B, and C in amounts so that the last loti spent on each product gives the same marginal utility and all of the consumer's income is spent. We can conclude that:**

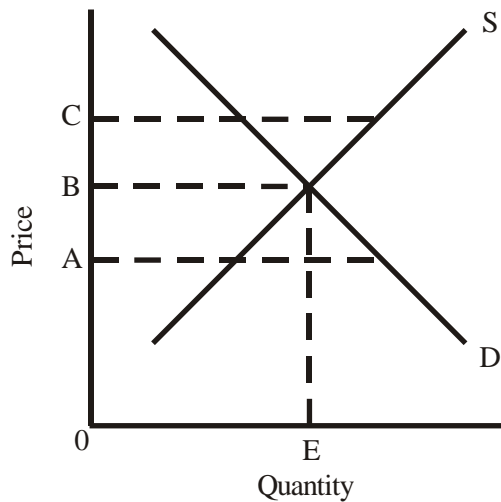
- a) Total utility is being minimized
- b) Production costs are being minimized
- c) Marginal utility exceeds total utility
- d) Total utility is being maximized

**34. An increase in money income shifts the consumer's:**

- a) Budget line to the left
- b) Budget line to the right
- c) Indifference curves to the left
- d) Indifference curves to the right



Use the diagram below to answer question 35.



**35. An effective government price ceiling is best illustrated by:**

- a) Price A
- b) Quantity E
- c) Price C
- d) Price B

**36. The price of Y falls from M2.00 to M1.90 and the quantity of Y demanded increases from 100 to 120. The price elasticity of demand at the price of M2.00 is:**

- a) -4.00
- b) -0.25
- c) -1.00
- d) -3.16

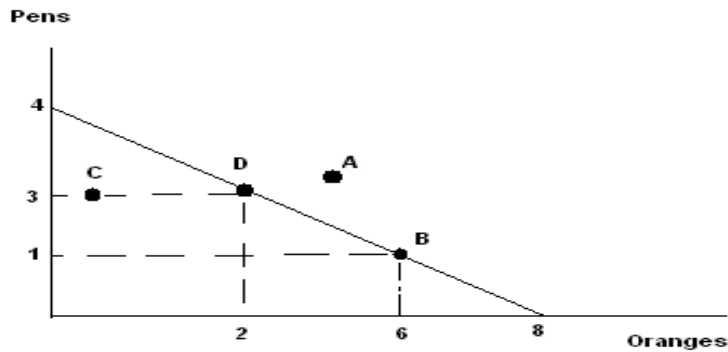
**37. You have M10.00 to spend, and you want to spend it all on lunch today. P.S. bars are M5.00 each and a packet of chips is M10.00. What is the opportunity cost of a packet of chips?**

- a) 4 x P.S. bars
- b) M10.00
- c) Nothing
- d) 2 x P.S. bars

**38. Which of the following examples best describes the Law of Demand?**

- a) When John's income doubles, his telephone bill also doubles.
- b) When the price of bread doubles, John's consumption of bread halves.
- c) When the price of watches increases, a local manufacturer starts offering more watches for sale.
- d) When a new anti-tobacco commercial is released, the consumption of tobacco products decreases sharply.

Questions 39 to 41 are based on the following graph.



**39. What is the opportunity cost of producing three pens?**

- a) two oranges
- b) four oranges
- c) six oranges
- d) It is not possible to say.

**40. What is the opportunity cost of producing two oranges?**

- a) It is not possible to say.
- b) one pen
- c) two pens
- d) four pens

**41. At point C society's resources:**

- a) Are fully utilized.
- b) Are all being used to produce oranges.
- c) Are all being used to produce pens.
- d) Are under-utilized.

**42. An externality occurs when \_\_\_\_\_.**

- a) the quantity demanded of a good exceeds the quantity supplied
- b) the quantity supplied of a good exceeds the quantity demanded
- c) the government regulates production and consumption decisions
- d) an economic activity affects third parties not engaged in the activity

**43. A \_\_\_\_\_ occurs when an economic activity has a spillover cost that does not affect those directly engaged in the activity.**

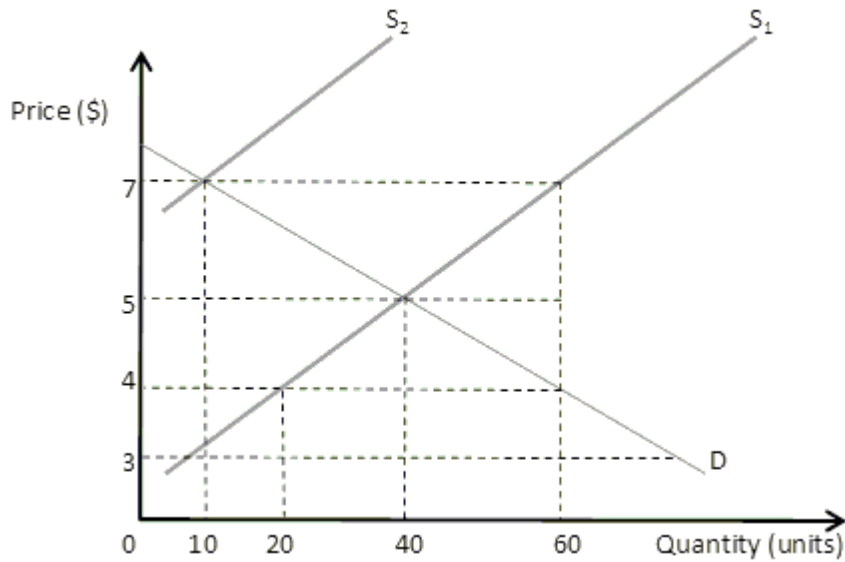
- a) positive externality
- b) negative externality
- c) gain in producer surplus
- d) gain in consumer surplus

**44. If a good is excludable, \_\_\_\_\_.**

- a) one person's use of the good reduces the amount of the good available to others
- b) people can be prevented from using the good
- c) more than one person cannot use the good at the same time
- d) several people can use the good simultaneously

45. A good is non-rival in consumption if \_\_\_\_\_.
- one person's use of the good does not preclude consumption by others
  - the government can regulate its production
  - people cannot be prevented from using it
  - the demand for the good increases with an increase in the consumer's income

The following figure shows the demand and supply curves for USB flash drives. D is the demand curve and S<sub>1</sub> is the initial supply curve.



46. Refer to the figure above. When the demand curve for flash drives is D and the supply curve of flash drives is S<sub>1</sub>, the equilibrium price is:
- \$3.
  - \$4.
  - \$5.
  - \$7.
47. Refer to the figure above. When the demand curve for flash drives is D and the supply curve of flash drives is S<sub>1</sub>, what is the shortage in the market if the price is \$4?
- 0 units
  - 10 units
  - 20 units
  - 40 units
48. Refer to the figure above. If the supply curve for flash drives shifts from S<sub>1</sub> to S<sub>2</sub>, with no change in the demand curve, the new competitive equilibrium quantity is:
- 10 units.
  - 20 units.
  - 40 units.
  - 60 units.

**49. Which of the following best describes the difference between a demand curve and a demand schedule?**

- a) A demand curve can be derived from a demand schedule, but a demand schedule cannot be derived from a demand curve.
- b) A demand curve is a graphical representation of the relationship between the quantity of a good and its price, whereas a demand schedule is a tabular representation.
- c) A demand curve shows different quantities of a good demanded at different prices, whereas a demand schedule shows different quantities of a good demanded at different incomes.
- d) A demand curve shows different quantities of a good demanded at different incomes, whereas a demand schedule shows different quantities of a good demanded at different prices.

**50. Public goods are \_\_\_\_\_ in consumption.**

- a) excludable but non-rival
- b) non-excludable and non-rival
- c) rival but non-excludable
- d) excludable and rival

## SECTION B

### QUESTION 1

- a) Mokebe loves playing Amapiano music at high volume. Leruo loves Famo and hates Amapiano. Unfortunately, they are next-door neighbours in an apartment building that has paper-thin walls.
- (i) What is the externality here? [2]
- (ii) What command-and-control policy might the landlord impose? Could such a policy lead to an inefficient outcome? Explain. [5]
- (iii) Suppose the landlord lets the tenants do whatever they want. According to the Coase theorem, how might Mokebe and Leruo reach an efficient outcome on their own? What might prevent them from reaching an efficient outcome? [5.5]
- b) The **Table 1** shows the average cost schedule of a firm that produces caps. Caps are sold at M10.00 each.

**Table 1: Cost Schedule for Caps Inc.**

Output (Q)	Average cost (AC) [ in Maloti]	Price (P) [in Maloti]
70	6.50	10.00
80	6.75	10.00
90	7.00	10.00
100	7.30	10.00
110	8.00	10.00

For each level of output calculate the following [**Present your answer in a form of a table**]:

- (i) Total cost (TC) [2.5]
- (ii) Total Revenue (TR) [2.5]
- (iii) Profit [2.5]
- (iv) Marginal cost (MC) [2.5]
- (v) Marginal Revenue (MR) [2.5]

### QUESTION 2

- a) With the aid of an example, explain the free-rider problem. Also explain why free riders make the private provision of a public good inefficient. [5]
- b) Classify each of the statements below as positive or normative. Briefly explain. [5]
- (i) Lower tax rates encourage more work and more saving.
- (ii) Society ought to require welfare recipients to look for jobs.
- (iii) Cash payments increase the welfare of recipients to a greater degree than do transfer-in-kind of equal cash value.
- (iv) If the government budget is to be balanced, it should be done over the business cycle rather than yearly.
- (v) A large government budget deficit has an adverse effect on the economy.

- c) Using **well labelled** supply and demand diagrams, show the effect of the following events on the market for sweatshirts:
- (i) A drought in Egypt damages the cotton crop. [5]
  - (ii) The price of leather jackets falls. [5]
  - (iii) All universities require students to attend morning exercise classes in appropriate attire. [5]

### QUESTION 3

- a) Use the table below which relates to the market for potatoes, to answer the questions that follow:

**Table 2: Market for Potatoes**

Price per bag of Potatoes [in Maloti]	Quantity demanded [per day]	Quantity supplied [per day]
50.00	70	52
55.00	68	56
60.00	66	60
65.00	64	64
70.00	62	68
75.00	60	72

- (i) Plot the market demand curve and the market supply curve. Determine the market equilibrium and clearly show the equilibrium price and quantity. [8]
  - (ii) At what price are 68 bags of potatoes supplied? What is the state of the market at that price? Support your answer. [4]
  - (iii) At the price of M50.00 per bag of potatoes, how many bags are demanded and how many are supplied? [3]
- b) Suppose that your demand schedule for DVDs is as follows:

**Table 3: Demand for DVDs**

Price (in Maloti)	Quantity Demanded (Income = M10 000)	Quantity Demanded (Income = M12 000)
8	40	50
10	32	45
12	24	30
14	16	20
16	8	12

- (i) Calculate your price elasticity of demand as the price of DVDs increases from M8 to M10, if your income is M10 000. [5]
- (ii) Calculate the income elasticity of demand as your income increases from M10 000 to M12 000, if the price is M16. [5]