NATIONAL UNIVERSITY OF LESOTHO

B.A. EXAMINATIONS

EC1511: PRINCIPLES OF MICROECONOMICS

January 2024 100 Marks Time: 3 hours

INSTRUCTIONS: 1. Answer ALL questions in Section A

2. Answer ONE question from Section B and ONE question Section C

SECTION A : Multiple Choice Questions

1) Economics is primarily the study of:
   A) the relationship between matter and its motion.
   B) agents′ choices and their impact on society.
   C) events of the past, and how these events affect present human behavior.
   D) the different types of governments and the impact of their policies on a nation.
2) Which of the following is an example of a positive economic statement?
   A) The pricing policies of monopolies should be strictly supervised.
   B) Unemployment is more harmful than inflation.
   C) Higher interest rates will encourage more savings.
   D) Pollution is one of the most serious economic problems.
3) Which of the following statements correctly differentiates between positive and normative economics?
   A) Positive economics is descriptive, whereas normative economics is advisory.
   B) Positive economics describes what people ought to do, whereas normative economics describes what people actually do.
   C) Positive economics is based on judgments, whereas normative economics is not.
   D) Positive economics can only be applied to microeconomics, whereas normative economics can be applied to both microeconomics and macroeconomics.
4) Which of the following statements correctly highlights the difference between microeconomics and macroeconomics?
   A) Microeconomics is descriptive, whereas macroeconomics is advisory.
   B) Microeconomics primarily deals with positive analysis, whereas macroeconomics primarily deals with normative analysis.
   C) Microeconomics deals with a small part of the economy, whereas macroeconomics deals with aggregate economic performance.
   D) Microeconomics describes what economic agents actually do, whereas macroeconomics describes what economic agents ought to do.
5) Feasible options are options:
   A) that are available and affordable.

B) that are available but not affordable.

C) that are affordable but not available.

D) that are optimal for an economic agent.

Scenario: A model is based on an assumption that an additional year of education increases a student's future wage by 20%.

6) Refer to the scenario above. The hypothesis of the model is that:

A) college graduates will earn 80 percent more than high school graduates.

B) college graduates will earn 107 percent more than high school graduates.

C) college graduates will earn 200 percent more than high school graduates.

D) college graduates will earn 275 percent more than high school graduates.

7) Refer to the scenario above. Which of the following statements is true of the model?

A) The predictions of this model cannot be tested empirically.

B) The prediction of the model is accurate and will hold for all individuals.

C) The prediction of the model can be applied to unlimited years of additional education.

D) The model predicts that two additional years of education is likely to increase future earnings by 60 percent.

8) Refer to the scenario above. Which of the followings statements is true of the model?

A) The predictions of this model can be verified empirically.

B) The predictions of this model can only be applied for a limited number of years of additional education.

C) According to the model two additional years of education will increase an individual's future wages 1.20 times.

D) According to the model two additional years of education will increase an individual's future wages 2.98 times.

9) Refer to the scenario above. Which of the following statements is true about the model's prediction?

A) The prediction cannot be verified empirically.

B) The prediction is precise, exact, and accurate for the entire population.

C) The prediction is an approximate relationship and may not hold for everyone.

D) The prediction can be applied to estimate the returns only for a limited number of years of additional education.

10) Refer to the scenario above. Which of the following statements is true about the model?

A) The model is not based on any assumption.

B) The predictions of the model will hold for every individual.

C) The model describes the economic payoff of more education.

D) The model can be applied for maximum 10 years of additional education.

Ryan wants to rent an apartment. The following table shows the monthly rent of five apartments and the monthly commuting time to work from each apartment. Ryan's opportunity cost of time is $15 per hour.

Table 1: Costs of renting apartment per month

APARTMENT	COMMUTING TIME (HOURS/MONTH)	RENT ($/MONTH)
1	40	**1,500**
2	20	**1,750**
3	10	**2,000**
4	4	**2,210**
5	**1**	**2,250**

11) Refer to table 1 above. What is the total cost incurred per month if Ryan rents Apartment 3?

A) $2,000

B) $2,050

C) $2,150

D) $2,270

12) Refer to table 1 above. What is the total cost incurred per month if Ryan rents Apartment 5?

A) $2,150

B) $2,270

C) $2,400

D) $2,265

13) Refer to table 1 above. What is the opportunity cost of commute per month to work if Ryan rents Apartment 2?

A) $20

B) $150

C) $200

D) $300

14) Refer to table 1 above. The total cost per month is the highest if Apartment_is rented.

A) 2

B) 3

C) 4

D) 5

15) Refer to table 1 above. The total cost per month is the lowest if Ryan chooses to rent Apartment____.

A) 1

B) 2

C) 3

D) 4

Figure 1: Demand and supply curves for gas.

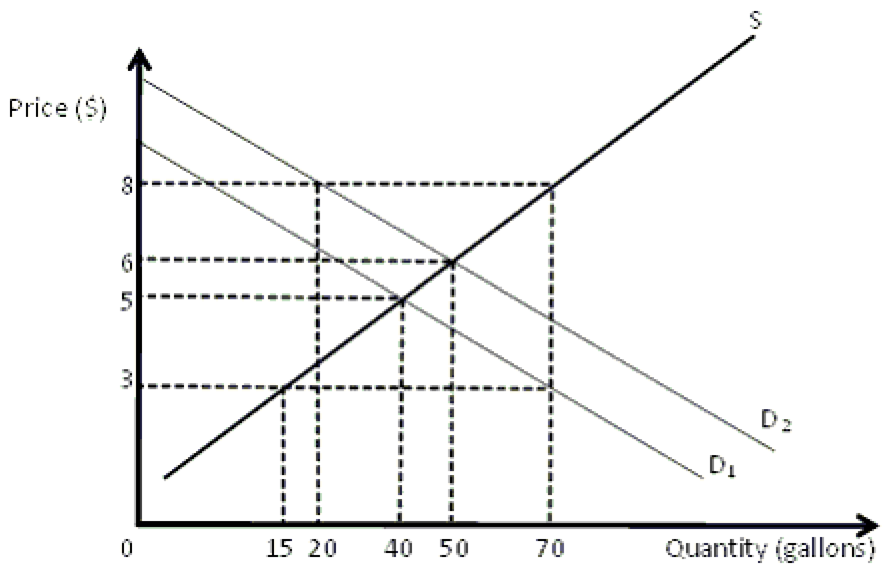

Figure 1 shows the demand and supply curves for gas. D_1 is the initial demand curve and S is the supply curve.

16) Refer to figure 1 above. When the demand curve for gas is D_1 and the supply curve for gas is S, the equilibrium price is:

A) $3.

B) $5.

C) $6.

D) $8.

17) Refer to figure 1 above. When the demand curve for gas is D_2 and the supply curve for gas is S, the surplus in the market when price is $8 is:

A) 20 gallons.

B) 25 gallons.

C) 50 gallons.

D) 55 gallons.

18) Refer to figure 1 above. When the demand curve for gas is D_2 and the supply curve of gas is S, the equilibrium quantity is:

A) 20 gallons.

B) 40 gallons.

C) 50 gallons.

D) 70 gallons.

19) Other things remaining the same, a left shift in the supply curve will lead to:

A) a decrease in the equilibrium price and the equilibrium quantity.

B) an increase in the equilibrium price and the equilibrium quantity.

C) a decrease in the equilibrium price and an increase in the equilibrium quantity.

D) an increase in the equilibrium price and a decrease in the equilibrium quantity.

20) Other things remaining same, a left shift in the demand curve will lead to:

A) an increase in the equilibrium price and the equilibrium quantity.

B) a decrease in the equilibrium price and the equilibrium quantity.

C) a decrease in the equilibrium price and an increase in the equilibrium quantity.

D) an increase in the equilibrium price and a decrease in the equilibrium quantity.

21) In a perfectly competitive market, all consumers:

A) are price takers.

B) are price makers.

C) have exactly the same demand schedules.

D) have exactly the same tastes and preferences.

22) Suppose the prices of a pair of jeans, a shirt, and a tie are \$30, \$20, and \$10 respectively. Which of the following statements is true in this context?

A) The opportunity cost of buying a pair of jeans is 2 ties.

B) The opportunity cost of buying a tie is 3 pairs of jeans.

C) The opportunity cost of buying a tie is 2 shirts

D) The opportunity cost of buying a shirt is 2 ties.

23) If a consumer purchases any combination of goods and services on his____, he will exhaust his income completely.

A) indifference curve

B) budget constraint

C) demand schedule

D) demand function

24) An optimizing consumer has to choose between two goods–Good A priced at P_A and Good B priced at P_B. Given that MB_A is the marginal benefit from consuming Good A and MB_B is the marginal benefit from consuming Good B, the consumer's well-being will be maximized at the point where:

A) $MB_A = MB_B$.

B) $MB_A/P_B=MB_B/P_A$.

C) $MB_A/P_A = MB_B/P_B$.

D) $MB_A = MB_B/P_B$.

25) ……..…. is the difference between the willingness to pay and the price paid for a good.

A) Producer surplus

B) Consumer surplus

C) Seller's profit

D) Revenue

26. The Law of Diminishing Marginal Returns states that:
    A) successive increases in inputs eventually lead to less additional output.
    B) successive increases in product prices lead to a fall in revenue.
    C) the demand for a good decreases as the price of the good increases.
    D) the net benefits of a perfectly competitive firm decrease as more firms enter the market.
27. Total cost of production refers to the:
    A) difference between variable costs and fixed costs.
    B) product of variable costs and fixed costs.
    C) ratio of variable costs to fixed costs.
    D) sum of variable costs and fixed costs.
28. firm has an average total cost of $50. If it sells 20 units of its product at $80 each, what is its profit?
    A) $30.
    B) $600.
    C) $1,000.
    D) $1,600.5.
29. Which of the following statements correctly describes a competitive market?
    A) Buyers and sellers negotiate prices before making exchanges.
    B) The market price for the same good varies from seller to seller.
    C) Sometimes, a single seller has the ability to dictate the market price.
    D) The market price is determined by the interaction of demand and supply.

30. Assume that a seller in a perfectly competitive market charges more than the equilibrium price. It is likely that this seller will:

   A) increase his profit.

   B) increase his sales.

   C) lose only a few buyers.

   D) lose almost all of his buyers.

31. A supply schedule is a table that reports:

   A) the expected excess supply in the market at different prices.

   B) the profits earned by producers at different levels of production.

   C) the different quantities of a good that producers are willing to sell at different income levels.

   D) the different quantities of a good that producers are willing to sell at different prices.

32. The Law of Supply states that:

   A) at the equilibrium price, there is always some excess supply in the market.

   B) supply creates its own demand.

   C) the quantity supplied of a good rises when the price rises.

   D) the quantity supplied of a good will always equal the quantity of the good demanded.

33. Which of the following is likely to lead to a right shift in the supply curve of cotton?

   A) An increase in labor productivity due to training programs.

   B) A decrease in the price of cotton.

   C) A rise in labor costs due to wage demands by labor unions.

   D) A rise in labor costs due to wage demands by labor unions.

34. A price ceiling imposed by the government:

   A) can create situations of excess demand.

   B) is a tax that increases the market price of a good.

   C) involves pricing a commodity above the market price.

   D) helps in establishing equilibrium in case of shortage or surplus.

35. John is ready to pay $5 for an extra loaf of bread. Due to an ongoing discount in the store, he gets a loaf for $2. What is John's consumer surplus from the purchase?

   A) $3.

   B) $10.

   C) 2.50.

36. In a perfectly competitive market:

A) the sellers produce identical goods.

B)there are restrictions on the entry of new firms.

C) each seller charges a different price for its product.

D) bargaining over prices is a common phenomenon.

37. A free market is a market:

A) that operates with little or no government control.
B) where almost all exchanges take place involuntarily.
C) that has price controls imposed by a ruling authority.
D) where determination of equilibrium quantity is free from the forces of demand and supply.

38. In the long run:

A) all factors of production are fixed.
B) only some inputs of a firm can be changed.
C) all firms earn positive economic profits.
D) all factors of production can be changed.

39. Which of the following statements correctly describes a competitive market?

A) Buyers and sellers negotiate prices before making exchanges.
B) The market price for the same good varies from seller to seller.
C) Sometimes, a single seller has the ability to dictate the market price.
D) The market price is determined by the interaction of demand and supply.

40. A firm produces 200 units of a good when it employs 7 workers. The marginal product of the eighth worker is 46 units. If the eighth worker is hired, the firm's total product will increase to:

A) 208 units.
B) 228 units.
C) 246 units.
D) 322 units.

41. Increases in the marginal product of labor can be attributed to:

A) specialization of workers.
B) depreciation of capital.
C) diminishing returns to workers.
D) congestion and thus better use of work space.

42. Which of the following is an example of specialization?

A) The output of workers in a chocolate factory doubled when a new manager was appointed.

B) The cost of production of a light bulb making factory decreased as its capacity increased.

C) Instead of a worker making an entire shoe, the total productivity increased when different workers were allotted different jobs in the production process.

D) Import of better technology and machinery from developed countries greatly increased the number of laser printers that a company was manufacturing.

43. Which of the following statements identifies the difference between variable costs and fixed costs?

A) Variable costs are the costs incurred on variable factors of production, whereas fixed costs are the costs incurred on all factors of production.

B) Variable costs of a firm are zero after it shut downs, whereas it continues to incur the fixed costs of production in the short run.

C) Variable costs exist even when the production is zero, whereas fixed costs exist only when there is some positive production.

D) When Variable costs are incurred only in the long run, whereas a firm incurs some fixed costs in both the short run and the long run.

44. A good is said to have an elastic supply if its price elasticity of supply is:

A) Equal to zero.

B) Between zero and one.

C) Equal to one.

D) Greater than one.

45. A firm should shut down in the short run if the price is less than the:

A) average fixed cost.

B) average total cost.

C) average variable cost.

D) marginal cost.

46. Consumer surplus is the:

A) difference between the buyer's reservation value and the price he actually pays.

B) product of a buyer's reservation value and the price he actually pays.

C) sum of a buyer's reservation value and the price he actually pays.

D) ratio of a buyer's reservation value to the price he actually pays.

Scenario: With the available resources, Wendy can produce 20 greeting cards or 10 earrings. Sarah, with the resources she has, can produce 5 greeting cards or 15 earrings.

47. Refer to the scenario above. What is Wendy's opportunity cost of producing one greeting card?

A) 0.25 earrings.

B) 0.5 earrings.

C) 1 earring.

D) 2 earrings.

48. Refer to the scenario above. What is Sarah's opportunity cost of producing one earring?

A) 0.33 greeting cards.

B) 1 greeting card.

C) 1.45 greeting cards.

D) 3 greeting cards.

49. Protectionism refers to:

A) subsidizing imports.

B) reduction of trade barriers.

C) increased export of goods and services.

D) reducing the competition faced by domestic firms.

50. Which of the following is true of a progressive tax system?

A) High income households pay a higher percentage of their income as taxes.

B) Low income households pay a higher percentage of their income as taxes.

C) All households pay the same amount of taxes irrespective of their income.

D) All households pay the same percentage of their income as taxes

SECTION B

Question 1

a) Assume that the market for cell phones comprises two buyers and two sellers. Table 2 and Table 3 below show the demand and supply of cell phones at different prices. Using the information in the tables, determine the market equilibrium price and quantity. **(10)**

Table 2: Demand of cell phones at different prices

PRICE ($)	CELL PHONES DEMANDED (BUYER 1)	CELL PHONES DEMANDED (BUYER 2)
10	100	**80**
20	80	**65**
30	75	**50**
40	60	**45**
50	30	**30**
60	**20**	**22**

Table 3: Supply of cell phones at different prices

PRICE ($)	CELL PHONES SUPPLIED (SELLER 1)	CELL PHONES SUPPLIED (SELLER 2)
10	10	**25**
20	30	**40**
30	50	**45**
40	55	**50**
50	65	**60**
60	**75**	**70**

b) What is the difference between a shortage and a surplus in the market for light bulbs? (Illustrate your answer with the help of suitable diagrams.) **(10)**

c) What will happen to the equilibrium price and quantity of cars if there is an increase in the price of petrol? **(5)**

Question 2

a) Assume that a firm wants to set up a factory. It has four different options. The rent of the factory in the four different locations and the time taken to transport the product from each location to the market is shown in the table below. The opportunity cost of time is $10 per hour.

Table 4: Monthly costs per factory location

FACTORY LOCATION	MONTHLY COMMUTING TIME (HOURS)	MONTHLY RENT ($)
VERY FAR	30	**2,060**
FAR	25	**2,100**
CLOSE	15	**2,300**
VERY CLOSE	**5**	**2,500**

i) If the firm decides to choose factory far over close, what is its marginal opportunity cost of transporting products to the market? **(2)**

ii) What is the marginal rent cost if the firm decides to choose factory very close over factory close? **(2)**

iii) What is the marginal opportunity cost of transporting products to the market if the firm decides to choose factory far over factory very far? **(2)**

iv) What is the marginal rent cost if the firm decides to choose factory far over factory very far? **(2)**

v) Which is the optimum location for the firm to set up its factory? **(2)**

b) The quantity demanded of a particular range of flashlights is 600 units when price per unit is M5. When the price increases to M20, the quantity demanded falls to 200 units. Later the price of cells used to operate these flashlights falls by 200% and the demand for the flashlights increases from 200 units to 300 units.

i) Calculate the arc price elasticity of demand for flashlights. **(5)**

ii) Calculate the cross-price elasticity of demand for flashlights. **(5)**

iii) Thabo purchases 20 units of the flashlights when his income is M30 and when his income increases to M120, his quantity demanded changes to 60 units. Calculate Thabo's income elasticity of demand for flashlights. **(5)**

SECTION C

Question 3

a) The Municipality of Maseru wants to raise money to build an amusement park next to Maseru Mall. Understanding that Debonairs Pizza is doing well, the Municipality decided to levy a tax of $2.40 on every large pizza ordered per day in all Debonairs Pizza outlets around Maseru. Every time Debonairs Pizza sells a large pizza, it must send $2.40 to the Municipality of Maseru. Without the tax, the equilibrium price and equilibrium quantity of a large pizza per day is $7.20 and 12, 000 respectively. After the introduction of the $2.40 tax, the quantity that Debonairs Pizza sells is 11, 600 at a price of $8.00. With the aid of a diagram, clearly explain how this tax on Debonairs Pizza affects market outcomes, that is.

i) Graphically by using letters, show which regions or areas represent consumer surplus, producer surplus and social surplus before and after the tax. **(6)**

ii) Calculate the revenue that goes to the Municipality of Maseru due to introducing a $2.40 tax on Debonairs Pizza' large pizza. **(5)**

iii) Calculate the incidence of the tax on consumers of Debonairs Pizza's large pizza. **(5)**

iv) Calculate the incidence of the tax on Debonairs Pizza's large pizza. **(5)**

v) Calculate the deadweight loss resulting from this tax. **(4)**

Question 4

a) Table 5 below shows the output and employment figures for a bakery. Calculate the missing values in table 5. **(15)**

Table 5: Output and employment for a bakery

No. of workers	Q (units)	MP	VC ($)	FC($)	TC($)	ATC ($)	AFC ($)	AVC ($)	MC ($)
0	0		0	300	-				
1	150	-	20	300	-	-	-	-	-
2	315	-	40	300	-	-	-	-	-
3	-	160	60	300	-	-	-	-	-
4	-	140	80	300	-	-	-	-	-
5	730	-	100	300	-	-	-	-	-

where MP-Marginal Product, VC-Variable Cost, FC-Fixed Cost, TC- Total Cost, ATC- Average Total Cost, AFC- Average Fixed Cost, AVC-Average Variable Cost and Marginal Cost.

b) On the single diagram, draw graphs of average fixed cost, average variable cost, average total cost and marginal cost curves. **(10)**