

UNIVERSITY OF COLOMBO, SRI LANKA
FACULTY OF ARTS
FIRST YEAR EXAMINATION IN ARTS SEMESTER I - 2022/2023
END OF SEMESTER
ECN 1101: ELEMENTARY MICROECONOMICS

Answer 04 (Four) questions in total.

Students are allowed to use calculators. Graph paper will be provided.

Time duration: 2 hours only

1.

- a.) At price 5 demand is 100 and there is an excess demand of 45;
At price 15 supply is 115 and there is an excess supply of 45.

(i) Fill the demand schedule below.

Price	Demand	Supply
5		
15		

(4 marks)

(ii) Find the demand equation

(4 Marks)

(iii) Find the supply equation

(4 Marks)

(iv) Find the equilibrium price and quantity using these two equations.

(4 Marks)

b.) The following information is given about Product X

When $Q = 0$ $P = 10$

At price is 5 Consumer surplus is 160

What is the equilibrium quantity?

(5 Marks)

c.). Ranjith's income increased, but despite his increase in income he purchased less of product X. What can we conclude about product X and what can we say about the income elasticity of X?

(4 Marks)

2.

a.) $Q_D = 100 - 2P$

$Q_S = 40 + P$

(i) Fill out the demand and supply schedule for the prices given: (5 Marks)

Price	Demand	Supply
10		
30		
60		

(ii) Using a graph, find the equilibrium price and quantity. (6 Marks)

b) Discuss the impacts on the market of the product mentioned, of the following actions, using diagrams to illustrate your answers

(i) A unit tax is imposed on cigarettes

(ii) The government imposes a control price on rice (4 marks per section)

c) Discuss how the following concepts affect supply:

(i) Cost of storage

(ii) Technological progress (3 Marks per section)

3. (a) Ravi works as an hourly paid labourer; Raja works in the private sector as a Medical Specialist treating patients and is also paid on an hourly basis.

Mark the axis as wages per hour and number of hours worked per day and draw the labour supply curve for each person. Explain why the labour supply curves may take a different form for the two individuals. (5 Marks)

(b.) What advice would you give commercial banks in each of these cases?

(i) In a time of high inflation, if a bank wishes to expand savings

(ii) In a time of high uncertainty, if a bank wants to safeguard the funds it loans (4 Marks each)

(c.) A machine to make recycle paper costs Rs 800,000. The entrepreneur does not have the money and has to borrow it from the bank at 10% interest rate. Buys machine in year 0.

The entrepreneur forecasts his earnings at the end of each year as follows:

Year 1	300,000
Year 2	350,000
Year 3	400,000

The discount rate is 5%

Firstly, calculate the cost of the compound interest rate over the next three years. (No interest cost in year 0).

Secondly, calculate the total earnings from the recycle paper machine (steps in calculation must be clearly given).

Then determine whether the entrepreneur should buy the machine. (12 Marks)

4. (a)

(i) Fill out the table (giving information on per day output). Assume this product will be sold at Rs. 100 per unit

Labour	Total Product	Marginal Product (MP)	Value of Marginal Product (VMP)
0	0		
1	12		
2	42		
3	69		
4	89		
5	104		

(5 Marks)

(ii) Identify the trend relating to marginal product as the number of workers increases in the above table and explain what causes such an outcome?

(4 Marks)

(iii) If daily wage is determined by the labour market to be Rs 2000 how many workers should be employed?

(5 Marks)

(b) Consider a situation where a firm is manufacturing shoes

Technique A involves 5 units of labour and 2 units of capital

Technique B involves 2 units of labour and 5 units of capital

The entrepreneur decides to use the labour intensive technique.

(i) Which technique is labour intensive in the above context?

(ii) Give hypothetical values for one unit of capital and one unit of labour that would justify the entrepreneur's decision?

(iii) Given the above information in what sort of a country is the factory located?

(2 Marks per section)

(c) List out the different ways in which a firm can increase its output.

(5 Marks)

5. (a) Fill out all the cells in the following table

Output	Fixed cost (FC)	Variable Cost (VC)	Total cost (TC)	Average Fixed cost (AFC)	Average Variable cost (AVC)	Average Total Cost (ATC)
0	50			-	-	-
1		50				
2		78				

(12 Marks)

(b) Explain how the concepts 'spread effect' and 'diminishing marginal product' can be used to explain why the short run average total cost (ATC) curve takes a U shape? (6 Marks)

(c) Complete this table then using this information find the slopes of the Average Revenue (AR) and Marginal Revenue (MR) curves of the monopolist. Prove that the MR curve is twice as steep as the AR curve.

P	Q	Total Revenue	Marginal Revenue
5	60		
4	70		
3	80		

(7 Marks)

6. (a) Are the following statements true or false? If you answer true then justify them; if you answer false then correct them.

(i) Under perfect competition producers always make abnormal profits.

(ii) Under Perfect Competition both producers and consumers are price takers.

(4 marks per section)

(b) A firm has selected the output level at which it wishes to produce. The firm is considering the cost situation as it applies in the short run and the long run. Cost conditions are as follows:

Long run average cost	14
Short run average fixed cost	8
Short run average variable cost	7
Short run average cost	15

Under each of the given prices in the table state what the entrepreneur would do in the short run and the long run.

	Short run	Long run
P = 16		
P = 6		
P = 14		
P = 10		

(8 Marks)

(c.) Using cost curves diagrams illustrate,

(i) Situation of normal profit

(4 Marks)

(ii) How the short-term supply curve is derived

(5 Marks)

7. (a) Using the concepts 'price effect' and 'quantity effect' determine whether the monopolist should change the quantity from 20 to 30?

P	Q
5	10
4	20
3	30
2	40

(4 Marks)

(b)

(i) Draw the Average Revenue (AR) and Marginal Revenue (MR) curves for a Monopolist. Draw a horizontal MC curve. Then illustrate the quantity and price of a monopolist.

(ii) Draw the same diagram again and mark out consumer surplus, producer surplus and deadweight loss.

(iii) Draw the same diagram you drew under (ii) and show how when the government imposes a quota on the monopolist, that the deadweight loss reduces.

(4 Marks each section)

(c) A monopolist has the opportunity to price discriminate. Answer the following questions that relate to price discrimination:

(i) What is meant by perfect price discrimination?

(ii) What happens to dead weight loss under perfect price discrimination?

(iii) Under price discrimination discuss how prices are fixed in relation to elasticity.

(3 Marks per section)

8. Write short notes on any four (4) of the following:

(i) Linear Production Possibility Frontier

(ii) Impact of Tacit collusion in an Oligopoly market

(iii) Non-price competition under monopolistic competition

(iv) Natural Monopoly

(v) Disutility

(vi) Role of advertising

(vii) Efficiency Wages

(6.25 Marks per section)
