

Eastern University, Sri Lanka
Faculty of Commerce and Management
Third Year Second Semester Examination
BCom Honours/Business Economics-2021/2022
(August/September 2024)
ECN 3033 Managerial Economics

Answer all questions

Time: 03 Hours

1.

i. Briefly explain how the demand estimation for a product would be useful to the producers to figure out the market. (03 Ma

ii. A milk farmer wants to estimate the demand function for his product. The results for milk are given below. (Y = Demand for milk and X= Price of milk)

Source	SS	df	MS			
Model	4333.33333	1	4333.33333	Number of obs =	6	
Residual	200	4	50	F(1, 4) =	86.67	
Total	4533.33333	5	906.666667	Prob > F =	0.0007	
				R-squared =	0.9559	
				Adj R-squared =	0.9449	
				Root MSE =	7.0711	

y	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
x	-200	21.48345	-9.31	0.001	-259.6476	-140.3524
_cons	260	15.66476	16.60	0.000	216.5077	303.4923

a. Construct the demand equation for milk (03 Ma

b. Show what would be the change in the demand for milk, if the farmer adjusts his pricing by one rupee (03 Ma

iii. Suppose that the Milco (Pvt) Ltd estimates linear trend in its monthly product sales for January 2023-July 2024. The trend of estimated function is given as follows:

$$Q = 40.34 + 3.53t$$

Where Q is the monthly sales and t indicates time (Month)

a) State the nature of the trend of the sales of Milco product at the market (02 Ma

b) Calculate predicted sales for next three month from July-2024 (03 Ma

iv. Suppose that the **Cargills Ceylon** estimates trend of the sales of its Ice-cream product for the period of January 2021 to December 2023, and tries to forecast future sales too. The company in its preliminary study found that there is a seasonal variation in the past sales. Therefore, the analysts incorporated D_1 , D_2 and D_3 as dummy variables for first, second and third quarters of the year whereas the value for fourth quarter is allowed to drop. The estimated regression results are given as follows:

Variables	Coefficients
Intercept	234,345.00
t	2735.45
D ₁	-68,688.00
D ₂	-59,756.00
D ₃	-62,003.00

You are required to calculate the foretasted sales of Ice-cream for the respective quarters in 2024

2. i.

Define Own, Cross Price, and Income elasticities with appropriate formulas

ii. List out the determinants of price elasticity of demand for a product

iii. The **Ambewela Livestock (Pvt.) Ltd** has estimated its demand equation to investigate the determinants for one of its products that is cheese at the Sri Lankan Market. The estimated demand equation is given as follows:

$$\ln Q_{d_{Ambewela}} = 280 - 1.95 \ln P_{Ambewela} + 1.55 \ln P_{Anchor} + 0.25 \ln P_{Richlife} + 1.25 \ln P_{Maiya} - 2.85 \ln I + 2.15 \ln A$$

$\ln Q_{d_{Ambewela}}$ = Quantity Demanded for Ambewela cheese in Kg

$\ln P_{Ambewela}$ = Price of Ambewela cheese in Rs.

$\ln P_{Anchor}$ = Price of Anchor cheese in Rs.

$\ln P_{Richlife}$ = Price of Richlife cheese in Rs.

$\ln P_{maiya}$ = Price of Maiya cheese in Rs.

$\ln I$ = Consumer Average income in thousand Rs.

$\ln A$ = Advertisement expenditure for Ambewela cheese

a. Interpret each coefficient value of the variables

b. Who are the potential and weak competitors to Ambewela cheese? Why?

c. Is Ambewela cheese categorized as a luxury? Why?

d. State whether the advertisement for Ambewela cheese is significant? Why?

iv.

State the following decisions of the respective producers in order to increase their total revenue. Give reason for your statement.

Company	Price elasticity of Demand	Pricing Decision
Ambewela	1.75	Increase
Ceylon Biscuit Ltd	2.56	Decrease
Litro Gas	0.54	Decrease
Kandos Chocolate	1.00	Increase

(Total 20)

3.

- i. A Pizza Restaurant which is operating in short-run has estimated its production function to investigate the present and future status. The estimated production function is given as follows:

$$Q = 13.26L + 0.3L^2 - 0.12L^3$$

whereas Q = Level of Output and L = labour hours

- a. Derive Marginal Product and Average product (02 Ma)
- c. Find the level of Labour hours where the Law of Diminishing Returns starts to operate (02 Ma)
- d. Find the maximum level of average product that the Restaurant can achieve with the existing level of input capacity. (02 Ma)
- e. If the restaurant employs 50 and 150 labour levels, respectively, determine the level of labor elasticity of production and interpret the results. (02 Ma)

- ii. Suppose that the Sri Lanka Transport Board has estimated a production function for its Bus operations as follows:

$$\ln M = 100 \ln B^{0.36} \ln L^{0.46} \ln F^{0.21}$$

where,

$\ln M$ = Logarithm of output in millions of Bus kilometers

$\ln B$ = Logarithm capital input number of Buses

$\ln L$ = Logarithm of labour hours

$\ln F$ = Logarithm of fuel in thousand liters

- a) Explain how changes in each variable will affect the number of kilometers the buses run. (03 Ma)
- b) Measure the Returns to Scale of Sri Lanka Transport Board and interpret it (02 Ma)
- c) Suppose that the Transport Board pulls 10% of the buses out from the services, what would be effect in the number of kilometers? (02 Ma)
- iii. Mahindra KUV100 NXT, the first "Made in Sri Lanka" product rolled out under the state-of-the-art assembly facility of Mahindra Ideal Lanka (Pvt) Ltd. It assessed the learning capacity of the employees in its three Mahindra KUV100 NXT assembling units as A1, A2 and A3. The learning rates in percentages were measured by the experts such as 65%, 90% and 80% for each unit, respectively.
- a. Interpret the measured learning rates in percentage of each assembling unit of the Company. (03 Ma)
- b. Which of the unit will be selected for rewarding based on the productivity of the labour force? Why? (02 Ma)

(Total 20 Ma)

4.

- i. Does Perfectly Competitive Market structure exist in real world? Discuss with appropriate examples. (05)
- ii. What is meant by product/service differentiation? Briefly explain why firms in Monopolistic competition market are keen in practicing differentiation? (05)
- iii. List out the reasons that can give monopoly power to a firm in the industry (05)
- iv. Differentiate Monopsony from Oligopsony market structure with appropriate examples (05)

(Total 20)

5.

- i. What is meant by Duopoly market? 'Fuel market structure in Sri Lanka turned from Duopoly to Oligopoly'. Do you agree? Explain how? (05)
- ii. Define Mark-up Factor and Learner Index. Briefly explain how these two indices are useful to the management of the monopoly power of the firms. (05)
- iii. Ruban plans to start a business investing in manufacturing. He has two plans such as investing either in **Iron** manufacturing or **Furniture** manufacturing. To choose the business he wants to know the level of competition at the iron and furniture manufacturing industries. He collected all information including the market share of the existing leading companies for the evaluation. The market shares of the first four leading companies A, B, C, and D of in iron industry are 33%, 26%, 20%, and 18%, respectively, whereas the market share of four leading furniture firms such as E, F, G, H and I are 14%, 12%, 11% and 6%, respectively.

Answer the following questions

- a) What market structure the iron industry is? Explain why
- b) What market structure the furniture industry is? Explain why
- c) In which business the barriers are high? Explain how?

(Total