THE INSTITUTE OF CHARTERED ACCOUNTANTS OF SRI LANKA

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SCHOOL OF ACCOUNTING AND BUSINESS
BSc. (APPLIED ACCOUNTING) GENERAL / SPECIAL DEGREE PROGRAMME

END SEMESTER EXAMINATION – JANUARY 2018

BEC 30325 Managerial Economics

Date	:	6th January 2018
Time	:	1.00 p.m. - 3.30 p.m.
Duration	:	Two and a half (02 ½) hours

Instructions to Candidates:

- This paper consists of three sections. (A, B and C)
- Section A- Answer **ALL** questions in the sheet provided
  Section B- Answer only **Four (04)** questions
  Section C- Answer only **One (01)** question
- The total marks for the paper is 100
- The marks for each question are shown in brackets
- The statistical tables are provided
- Answers should be written neatly and legibly.

Section A

Answer **ALL** Questions

Question No. 01

Select the most appropriate answer for the questions 1 – 10.

1. How does Managerial Economics involve in decision making process of an organization?
   a. Managerial Economics applies economic theory with decision science tools to find the optimal solution in managerial decision making.
   b. Managerial Economics gathers quantifiable data and analyze the prevailing problems in an organization.
   c. Managerial Economics applies economic theories to make decisions in an organization
   d. Managerial Economics analyses the micro data with the use of statistics and other models

2. When an individual's income rises while everything else remains the same, that person's demand for a normal good,
   a. remains the same
   b. falls
   c. rises
   d. any of the above

3. According to Managerial Economics, the concept of demand estimation can be best explained as;
   a. the process of quantifying the links between actual sales and the forecasted sales of a product
   b. the attempt to predict the demand of a particular product or service for the upcoming years
   c. the process of building up quantifiable relationships between demand of a product and other variables determining the demand
   d. the attempt to quantify the links between quantity demanded for a product and the price which determines the demand

4. The marginal product of labour is defined as the change in
   a. output per additional unit of revenue
   b. output per additional unit of revenue
   c. output per additional unit of labour
   d. revenue per additional unit of labour

5. Lakshana is a student who is looking forward to attending a private university for her higher studies. It costs LKR 200,000 for tuition fee, LKR 50,000 for meals, LKR 60,000 for accommodation and LKR 30,000 for books and supplies for one year. Lakshana could also have earned LKR 25,000 per month by getting a job instead of going to the university. What are the explicit, implicit and economic costs of attending the university respectively?
   a. LKR 340,000, LKR 25,000 and LKR 365,000
   b. LKR 200,000, LKR 300, 000 and LKR 500, 000
   c. LKR 340,000, LKR 300,000 and LKR 640,000
   d. LKR 340,000, LKR 300,000 and LKR 340,000

6. Which one of the following statement is ***incorrect*** with respect to the relationship between elasticity and total revenue?
   a. If demand is elastic, an increase in price will lead to a decrease in total revenue.
   b. If demand is elastic, a decrease in price will lead to a decrease in total revenue.
   c. If demand is inelastic, a decrease in price will lead to a decrease in total revenue.
   d. Total revenue is maximized at the point where demand is unitary elastic.

7. A firm attempting to estimate demand for its commodity in a simulated environment is called a;
   a. Market Survey
   b. Market Experiment
   c. Observational Research
   d. Consumer Clinic

8. The coefficient of determination is defined as the;
   a. proportion of the total variation in the dependent variable is explained by the variation in the independent(s) variable in the regression.
   b. proportion of the total variation in the independent variable(s) is explained by the variation in the dependent variable in the regression.
   c. total variation of the independent and dependent variables explained by the regression
   d. none of the above

9. The problems of Heteroscedasticity and Autocorrelation can be frequently found in
   a. pooled data and panel data respectively
   b. panel data and pooled data respectively
   c. cross-sectional data and time series data respectively
   d. time series data and cross-sectional data respectively

10. If Total Revenue (TR) of a firm is given as; $TR = 3Q^2 + 5Q + 8$ and Total Cost (TC) is given as; $TC = 35Q + 3$, what is the profit function (π) and the profit maximizing level of output respectively?
    a. $\pi = 6Q^2 - 30 + 5$ and 5
    b. $\pi = 6Q - 30$ and 5
    c. $\pi = 3Q - 30Q + 5$ and 5
    d. $\pi = 3Q^2 - 30Q + 5$ and 5

(Total 20 Marks)

Section B

Answer only **FOUR (04)** questions

Question No. 02

i. If you are a senior management officer of a private enterprise, indicate possible objectives, constraints and importance of managerial economics in decision making of the enterprise.

(05 marks)

ii. Rohan is currently reading for his bachelor's degree in Entrepreneurship. He is considering operating a fruit smoothie stand near to the university premises. This is an alternative to engage in internship programme, where he would earn Rs.60000 over the three-month period. In commencing the business, a fully equipped facility can be leased at a cost of Rs.80000. Additional projected costs are Rs.10000 for insurance and Rs.32.00 per unit for materials and other inputs supplies. Their fruit smoothies would be priced at Rs.50 per unit. Determine the accounting cost and economic cost of operating the business.

(05 marks)

iii. London Metro runs between London and Heathrow and its cost and revenue functions for a train ride are given. (Q represents the number of passengers taking the train).

$TR = 22\ Q - 0.5Q^2$

$TC = 1/3\ Q^3 - 0.85Q^2 + 50Q + 90$

Calculate the number of passengers that the train should occupy in order to maximise profits of London Metro and the maximum profit

(05 marks)

(Total 15 Marks)

Question No. 03

i. Market research revealed that the market demand function for a packet of noodles as follows:

$$Q = 2400 - 2P - 15\,Py$$

Where Q is quantity demanded for a packet of noodles, P is the price of a packet of noodles and Py is the price of a packet of soup. The current price of a packet of noodles is Rs. 300/= and price of a packet of soup is Rs. 20/=.

a. Given the above information, calculate the own price elasticity of demand for a packet of noodles and interpret your answer.

b. Determine the appropriate pricing strategy to be used to maximise total revenue from the noodles business.

(06 marks)

ii. What are the objectives of forecasting demand for a firm and what is its importance for managerial decision making?

(03 marks)

iii. The following table shows the quarterly sales (in millions of Rupees) of Spotlight Ltd. for the years 2010 to 2014.

Year	Quarter (Q)	Sales
2010	Q1	14.71
	Q2	18.62
	Q3	13.53
	Q4	20.44
2011	Q1	12.56
	Q2	20.32
	Q3	14.82
	Q4	22.31
2012	Q1	18.10
	Q2	23.14
	Q3	17.13
	Q4	24.72
2013	Q1	20.81
	Q2	26.62
	Q3	19.64
	Q4	28.41

2014	Q1	25.67
	Q2	31.45
	Q3	23.28
	Q4	33.42

a. Forecast sales for next two years using 3 quarters and 5 quarters moving average.
b. Which moving average provides better forecast?

(06 marks)

(Total 15 Marks)

Question No. 04

i. Economists define short run, long run and very long run in a different manner. Discuss this classification and its relevance to the theory of production and cost.

(04 marks)

ii. Graphically illustrate and explain long run production equilibrium.

(04 marks)

iii. Royal Steel Ltd. Manufactures metal furniture and the Production Manager of the firm has estimated the following Cobb-Douglas form of production function.

$$Q= 2K^{0.5} L^{0.5}$$

Where Q is the output, K is the unit of capital and L is the unit of labour. Further it is noted that the capital stock of the firm is fixed at 90 units, the price of a unit of output is Rs 60 and the current wage rate is Rs.20 per unit.

a. Determine the optimum number of labour units to be employed in the production.
b. Does this production function exhibit increasing, decreasing, or constant returns to scale? Explain your answer.

(07 marks)

(Total 15 Marks)

Question No. 05

i. "In a dynamic business environment, strategic behavior of firms and competitor analysis become key aspects of managerial decision making." Do you agree? Explain your answer with an appropriate example.

(05 marks)

ii. The automobile industry consists of two firms; Vizza Ltd. and Kaila Ltd. The payoff matrix in terms of potential profits for two firms is given below. The two firms are faced with two alternative strategies; Introduce electric cars or introduce hybrid cars.

		Vizza Ltd.	
		Introduce electric cars	***Introduce hybrid cars***
Kaila Ltd.	***Introduce electric cars***	16 , 16	12 , 24
	Introduce hybrid cars	24 , 12	8 , 16

a. Find out the optimal strategies for the two firms.

(05 marks)

b. Do they have a dominant strategy with regard to above two strategies? Explain your answer.

(03 marks)

c. What is the Nash equilibrium?

(02 marks)

(Total 15 Marks)

Question No. 06

i. Explain the short run equilibrium of a perfect competitive firm. What do you predict will happen in the long run in this market?

(05 marks)

ii. "In dynamic environment companies spend a huge amount on advertising". Which kind of firms engage in extensive advertising and which market do they belong to? Explain the impact of advertising on firm's average cost and profits.

(05 marks)

iii. Graphically illustrate the kinked demand curve model and state why that particular market structure faces price rigidity.

(05 marks)

(Total 15 Marks)

Section C

Answer only **one (01)** question

Question No. 07

i. What is a Regression Analysis and what uses it has in the context of Managerial Economics?

(05 marks)

ii. The following regression output is related to the PAWNING section of a bank

Dependent Variable: PAWNING_ADVANCE_GROWTH_RATE				
Method: Least Squares				
Date: 12/03/12 Time: 22:58				
Sample: 2010 June to 2012 September				
Included observations: 29				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
REAL_INTEREST_RATE	-0.390539	0.118511	-3.295379	0.0028
AVERAGE_GOLD_PRICE_PER_POUND	0.129524	0.011916	10.86994	0.0000
C	0.058845	0.010522	5.592513	0.0000
R-squared	0.856433	Mean dependent var		0.022535
Adjusted R-squared	0.845390	S.D. dependent var		0.029997
S.E. of regression	0.011795	Akaike info criterion		-5.944594
Sum squared residual	0.003617	Schwarz criterion		-5.803150
Log likelihood	89.19662	Hannan-Quinn criter.		-5.900296
F-statistic	77.55028	Durbin-Watson stat		1.209069
Prob (F-statistic)	0.000000			

You are required to answer the following questions.

a. Construct the demand function for PAWNING section of the bank and interpret the results.

(05 marks)

b. Test the significance of each independent variable using hypothesis testing at the 95% confidence level.

(05 marks)

c. Use hypothesis testing to test the overall significance of this regression model at 95% confidence level.

(05 marks)

(Total 20 Marks)

Question No. 08

Asian Foods Inc. produces canned tuna and directly sells to household consumers and restaurants. Asian Foods Inc. is the only company which has the license to produce canned tuna in Seashell Island. The demand equations related to the two market segments are given below.

Demand equation for household consumers ---------- $Q_1 = 120 - 20P_1$

Demand equation for restaurants ---------- $Q_2 = 120 - 10P_2$

a. If the Total Cost (TC) function is given as TC = 90 + 2Q, find out the marginal cost function of Asian Foods Inc.

(03 marks)

b. What kind of strategy is this monopoly firm implementing?

(03 marks)

c. Under this strategy what prices will be charged from household consumers and restaurants for a canned tuna tin?

(07 marks)

d. Assume that you have been appointed as an economic advisor to Asian Foods Inc. Advise the managers whether it is better to use this strategy or not.

(07 marks)

(Total 20 Marks)