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

END SEMESTER EXAMINATION – FEBRUARY 2015

BEC 30325 Managerial Economics

Date : 06th February 2015
Time : 5.30 p.m. – 8.00 p.m.
Duration : Two and half (02 ½) Hours

Instructions to Candidates:

- Paper consists of Three Sections. (A, B and C)
- Section A - Answer **ALL** questions in the sheet provided
- Section B - Answer only **Four (04)** out of Five (05) questions given
- Section C - Answer only **one (01)** out of two (02) questions given
- Answers should be written neatly and legibly.

Section A

Underline/ circle the most appropriate answer for the question 1 – 10

1. In any production process the marginal product of labour equals:
 - a. total output divided by total labour inputs
 - b. total output minus the total capital stock.
 - c. the change in total output resulting from a 'small' change in the labour input.
 - d. total output produced by labour inputs

2. Which of the following statements describes the presence of diminishing returns to a factor?
 - a. the marginal product of a factor is positive and rising.
 - b. the marginal product of a factor is positive but falling.
 - c. the marginal product of a factor is falling and negative.
 - d. the marginal product of a factor is constant.

3. Which of the following statements describes increasing returns to scale?
 - a. Doubling the inputs used leads to double the output.
 - b. Increasing the inputs by 50% leads to a 25% increase in output.
 - c. Increasing inputs by $1/4$ leads to an increase in output of $1/3$.
 - d. None of the above

4. If a firm moves from one point on a production isoquant to another, which of the following will not happen.
 - a. A change in the ratio in which the inputs are combined.
 - b. A change in the marginal products of the inputs.
 - c. A change in the rate of technical substitution
 - d. A change in the level of output.

5. A firm faces the following long run cost function

$$TC = q^3 - 40q^2 + 450q$$

Average Cost, AC, will be at its minimum when

- a. $q = 10, AC = 20$
 - b. $q = 40, AC = 60$
 - c. $q = 40, AC = 10$
 - d. $q = 20, AC = 50$
6. A market is considered imperfectly competitive whenever
- a. the government intervenes to set a price floor
 - b. the government intervenes to set a price ceiling
 - c. supply and demand explain how prices are determined
 - d. a single buyer or seller has the power to affect the price of the product
7. In a market system, prices are determined by
- a. corporate executives
 - b. government bureaucrats
 - c. supply and demand
 - d. total market demand
8. According to the law of demand,
- a. there is a positive relationship between quantity demanded and price
 - b. as the price rises, demand will shift to the left
 - c. there is a negative relationship between quantity demanded and price
 - d. inverse relationship between a consumer's income and the amount of a commodity that the consumer demands.
9. An excess supply of rice in a competitive market would indicate that
- a. the problem of scarcity has been solved in that market
 - b. buyers want to purchase more rice at the current price than the sellers want to sell
 - c. the market will not be able to approach equilibrium
 - d. the current price exceeds the equilibrium price

10. If the price elasticity of demand for a product is equal to 0.5, then a 10 percent decrease in price will:

- increase quantity demanded by 5 percent.
- increase quantity demanded by 0.5 percent.
- decrease quantity demanded by 5 percent.
- decrease quantity demanded by 0.5 percent.

(Total 20 Marks)

Section B

Answer **only Four (04)** questions

Question No. 01

Consider following intermediate calculations found by a manager of a business firm on firm's advertising expenditure(X) and sales revenue(Y).

- Identify the relationship between advertising expenditure and sales revenue.
(05 Marks)
- Test the statistical validity of the parameters you have obtained.
(05 Marks)
- What should be the management decision on advertising expenditure?
(05 Marks)

$$n = 10$$

$$\sum_{i=1}^n X = 120 \quad \sum_{i=1}^n Y = 500 \quad \sum_{i=1}^n (X - \bar{X})(Y - \bar{Y}) = 106$$

$$\sum_{i=1}^n (X - \bar{X})^2 = 30 \quad \bar{X} = \frac{\sum X}{n} \quad \bar{Y} = \frac{\sum Y}{n}$$

$$\sum (Y - \bar{Y})^2 = 440 \quad \sum (\hat{Y} - \bar{Y})^2 = 373.84 \quad \sum e^2 = \sum_{i=1}^n (Y - \hat{Y})^2 = 65.4830$$

$$t = \frac{\hat{b}}{S_b} \quad \text{Critical Value at 5\% significance level} = 2.306$$

(Total 15 Marks)

Question No. 02

- i. A firm produces output that can be sold at a price of Rs. 10. The production function is given by

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

If capital is fixed at 1 unit in the short run, how much labor should the firm employ to maximize profits if the wage rate is Rs. 2?

(03 Marks)

- ii. A manager of a printing company uses a word processor and a typewriter to produce reports. The marginal product of a typewriter is 50 pages per day, and the marginal product of a word processor is 500 pages per day. The rental price of a typewriter is Rs 1 per day, whereas the rental price of a word processor is Rs 50 per day. Explain whether the manager of the firm is minimizing cost.

(07 Marks)

- iii. A manager hires labor and rents capital equipment in a very competitive market. Currently the wage rate is Rs 6 per hour and capital is rented at Rs12 per hour. If the marginal product of labor is 50 units of output per hour and the marginal product of capital is 75 units of output per hour, is the firm using the cost-minimizing combination of labor and capital? If not, should the firm increase or decrease the amount of capital used in its production process?

(05 Marks)

(Total 15 Marks)

Question No. 03

- i. An economist estimated the following cost function of a firm which produces product X.

$$C = 50 + 25Q_X + 30Q_X^2 + 5Q_X^3$$

Based on this information, determine:

- The fixed cost of producing 10 units of output.
- The variable cost of producing 10 units of output.
- The total cost of producing 10 units of output.
- The average fixed cost of producing 10 units of output.
- The average variable cost of producing 10 units of output.
- The average total cost of producing 10 units of output.
- The marginal cost of the 10th unit of output

(07 Marks)

- ii. Complete the table below to find the fixed cost, variable cost, total cost, average fixed cost, average variable cost, and marginal cost at all relevant levels of output.

Q	TFC	TVC	TC	AFC	AVC	ATC	MC
0	10,000					-	
100						200	
200						125	
300						133.33	
400						150	
500						200	
600						250	

(08 Marks)

(Total 15 Marks)

Question No. 04

- i. Why is a firm under perfect competition a price taker and not a price maker?

(02 Marks)

- ii. Explain why a monopolistically competitive firm cannot make any super normal profit in the long run. Use an appropriate graph to show your answer.

(03 Marks)

- iii. Suppose the demand curve for a monopoly firm and its total cost function are given respectively as

$$P = 405 - 4Q$$

$$TC = 40 + 5Q + Q^2$$

- a. Find profit maximizing price, output and total revenue

(03 Marks)

- b. Find the demand of this monopolist when marginal cost reaches its minimum.

(02 Marks)

- c. "Perfect competition is better than the monopoly for the society". If you are a manager of a monopolistic firm, what arguments would you provide against this statement?

(5 Marks)

(Total 15 Marks)

Question No. 05

- i. Explain consequences of following situations on fish market in Sri Lanka in terms of demand and supply analysis. Use graphs whenever possible.

- a. Fish supply decreased soon after the tsunami incidence
- b. Fish demand decreased and supply increased after one month of tsunami incidence
- c. Aggravation of the incidence of Bird flue in Asian countries
- d. Introduction of new technology to fishing industry in Sri Lanka
- e. Intensification of religious activities against killing cows for meat

(Total 15 Marks)

Section C

Answer **only one (01)** question

Question No. 01

- i. How does managerial economics help the manager in decision making and forward planning?

(10 Marks)

- ii. What is elasticity of demand? What are the managerial uses of price elasticity of demand?

(05 Marks)

- iii. What are the factors influencing elasticity of demand?

(05 Marks)

(Total 20 Marks)

Question No. 02

- i. Why do managers of business firms pay very much attention to the market

- a. structures in which they operate?

(05 Marks)

- b. Explain why it is difficult for firms to enter some markets but not others.

(05 Marks)

- ii. “A firm should continue to hire labor as long as marginal revenue product of labor greater than marginal resource cost of labor ($MRPL > MRCL$).” Do you agree with this statement? Elaborate on your answer. Use a graph if possible.

(05 Marks)

- iii. What is meant by returns to scale? How do you explain returns to scale with the help of Cobb Douglas production function?

(05 Marks)

(Total 20 Marks)