DEPARTMENT OF ECONOMICS

Masters in Economics -2015/ 2016

Final Examination- Semester I

MECON 501: Microeconomics

Time Allowed: 3 hours

Answer Four (4) questions only

Calculators can be used

OPEN BOOK EXAMINATION

Q1. Provide a **clear explanation** with the support of suitable **graphs** and **mathematical notations for five (5)** of the following statements:

    i. *Monopoly is neither good nor bad.*

    ii. *indifference curves may be used to analyze the choice of hours of work for an individual*

    iii. *Price discrimination strategies may take on heightened importance in E- market.*

    iv. *Classification of technological progress as neutral, capital-using, or labor using, depends on whether MP_K increased in the same proportion, greater proportion, or lesser proportion than MP_L.*

    v. *A straight-line demand curve is elastic above its midpoint, has unitary elasticity at the midpoint, and is inelastic below its midpoint.*

    vi. *Consumers at perfectly competitive market pay the marginal cost equal to price in the short-run as well as in the long-run.*

    vii. *A Pareto Efficient allocation must always be socially desirable.*

                                 (Each question carries equal marks)

                                          (Total 25 marks)

Q2. Consider the Cobb-Douglas utility function, $u_i(X, Y) = X^{1/4} Y^{3/4}$ for a rational consumer

    i. Derive the Marshallian demand functions for X and Y.   (05 marks)

    ii. Use the Marshallian demand functions for X and Y above to compute the indirect utility function and the expenditure function.   (05 marks)

    iii. Verify Roy's Identity.   (05 marks)

    iv. Using the expenditure function obtained in part (ii) together with Shephard's lemma, derive the compensated demand function for X and Y.   (05 marks)

    v. Compare the Marshallian demand functions and the compensated demand functions that you have obtained in parts (i) and (iv).   (05 marks)

                                          (Total 25 marks)

Q3. One firm has the entire market for Rahman Khan (hypothetical product). It produces at average and marginal costs of Rs 10. The firm faces a market demand curve of Q= 60 - 2P.

    i. Calculate the profit-maximizing price and quantity combination for the firm. What are the firm's revenues, costs, and profits? (05 marks)

    ii. Assume that the market has been converted in to perfect competition. Calculate market price, quantity, revenue, and profit. Show your results in a graph. (05 marks)

    iii. Calculate consumers' surplus, producers' surplus, and deadweight loss in part (a) and part (b) separately. (05 marks)

    iv. Use a graph to help you ascertain the value of transferred inputs to the rest of the economy following a change from a competitive market to a monopoly market. What would happen to those inputs? (05 marks)

    v. What is the social cost of monopoly? Can you suggest any compensating benefits? Use diagrams to explain your arguments. (05 marks)

(Total 25 marks)

Q4.

    i. Let $Q = K^{1/2} L^{1/2}$ and input prices be given at r and w. Construct a maximum value function and verify Hotelling's Lemma or

$$\frac{\partial \pi^*}{\partial p} = Q^* \quad and \quad \frac{\partial \pi^*}{\partial w_j} = - L_j^* \qquad \text{(08 marks)}$$

    ii. Suppose that a firm's production function is $Q = KL^2$, and w (price of labour) = Rs 40 and r (price of capital) = Rs 10;

        (a) If the firm desires to produce 2000 units of output, how many units of capital and labour should be used? (06 marks)

        (b) Instead of producing 2000 units if the firm decides to operate with the total cost budget of Rs 1800, how many units of capital and labor should be used to maximize output? (06 marks)

        (c) If you were an owner of the firm, would you to set your objective as output maximization subject to given budget or cost minimization subject to given output target. Explain your answer (05 marks)

(Total 25 marks)

Q5. (i) The payoff matrix of the profits/losses of two firms are given in the following table.

		Firm B	
		Small houses	Large houses
Firm A	Small houses	4,4	-2, -2
	Large houses	-2, -2	4,4

Determine:

      (a) Whether firm A has a dominant strategy   (02 marks)

      (b) Whether firm B has a dominant strategy   (02 marks)

      (c) The Nash equilibrium   (02 marks)

(ii) Explain how the concept of Prisoners' Dilemma can be used to analyze price competition.   (05 marks)

(iii) What is the incentive for the members of a cartel to cheat on the cartel?   (04 marks)

(iv) Using an appropriate example, show that the cooperate game is better than the non-cooperate game in oligopoly market.   (05 marks)

(v) What is the greatest difficulty in deciding and implementing a business strategy on a firm?   (05 marks)

(Total 25 marks)

Q6. (i) Briefly explain the reasons for market failure.   (15 marks)

    (ii) How does the government intervention correct *Market failure?*   (10 marks)

(Total 25 marks)

Q7. *(i)* Explain why public goods create a free-ride problem. Use an appropriate example to explain your answer.   (12 marks)

    (ii) Assume that there are public goods in an economy. Explain why this economy cannot reach Pareto Optimum even if the economy has only perfect competitive market. What do you propose to reach Pareto Optimum under such a situation?

          (13 marks)

(Total 25 marks)

END