BACHELOR OF ARTS EXAMINATION, 2017

(2nd Year, 3rd Semester)

ECONOMICS (HONOURS)

MICROECONOMICS I

Time : Two hours Full Marks : 30

Answer any five questions:

1. (i) Argue that existence of monopoly in a market may not imply existence of monopoly power.

   (iii) Show that the loss in allocative efficiency in a monopoly market approximately is half of the monopoly profit.

   (iv) Show that a competitive firm has higher incentive to innovate than a monopoly firm.

   $2 + 2 + 2 = 6$

2. Consider an electricity monopoly XYZ with marginal cost of servicing the consumers given by $c = 1$. A rural market with demand function $q_1 = 2 - p_1$ and an urban market with demand function $q_2 = 4 - p_2$ fall in its service area.

   (i) Suppose, XYZ can price discriminate between the markets. What is the total unit of electricity sold byXYZ in the two markets?

   (ii) Suppose, XYZ is forced by the Electricity Regulator to charge the same price at both the markets.

   a. Does XYZ serve both the markets?

   b. Does the total unit of electricity sold by XYZ rise, fall or remain unchanged compared to the discrimination situation?

   c. How would you compare the social surplus of the uniform price situation with the discrimination situation? (Does not require a proof)

   $2 + (2 + 1 + 1) = 6$

3. A monopsonist uses only factor X to produce her output Q which she sells in a competitive market at the fixed price $p = 28$. Her production and input supply functions are $q = \log x$ and $r = 1 + x$ respectively.

   (i) Determine the values of x and r at the monopsony equilibrium.

(ii) Measure the amount of monopsonistic exploitation associated with the equilibrium.

(iii) What kind of policies a government can take to solve the problem of monopsonistic exploitation? Justify your answer.

$2 + 1 + 3 = 6$

4. Consider a duopoly with inverse market demand $p = 6 - Q$. Assume that each firm can only choose one of the quantity levels $\{0,1,2,3\}$ and the costs of production are zero.

(i) Write down the strategic form of this game.[Show the calculations]

(ii) Find out the Nash equilibrium predictions.

(iii) Calculate the market price at the Nash equilibrium.

$3 + 1 + 2 = 6$

5. Consider a market with inverse demand function $P(Q) = 213 - Q$ which is supplied by two firms having unit cost of production 100 and 5 respectively.

(i) Calculate the output produced by each of the firms and the market price.

(ii) If the inefficient firm exits the market, the monopoly of the efficient firm is created. Will that improve the total surplus generated in the market? Justify your answer.

$3 + 3 = 6$

6. Suppose, the inverse market demand function is given by $p = a - Q$. Two firms produce homogeneous products in the market. The firms are identical with their marginal cost of production $c > 0$. Show that the Stackelberg leader earns a higher profit than the Cournot firm.

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7. Consider the following simultaneous move game of complete information:

	L	R
T	5,5	3,6
B	6,3	4,4

Under what conditions cooperation between the players will sustain at each stage of the game?

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