

P.G. 1st Semester - 2016**ECONOMICS****(CBCS)****Paper : 101**

Full Marks : 40

Time : 2 Hours

*The figures in the right-hand margin indicate marks.**Candidates are required to give their answers in their own words as far as practicable.*Answer any **four** of the following questions. $10 \times 4 = 40$

1. a) A monopolist faces a demand curve: $p = 10/q$. Her cost function is: $C(q) = q$. What will be his optimal output decision?
- b) Will a monopoly ever provide a Pareto efficient level of output on its own? Explain your answer.
- c) A monopolist sells in two markets. The demand curves for the monopolist's product is $y_1 = a - bp_1$ in market 1 and $y_2 = a - bp_2$ in market 2, where y_i is the quantity sold in market i and p_i is the price charged in market i , ($i = 1, 2$).

[Turn Over]

The monopolist has zero marginal cost. Note it must sell all units within a market at the same price. Under what conditions will the monopolist optimally choose not to discriminate price? 3+3+4

2. a) Calculate explicitly the profit function for the technology $y = x^\beta$, $\beta \in (0, 1)$ and verify that it is homogeneous and convex in (p, w) , where p is price of output (y) and w is price of input (x).
- b) A firm has a production function $y = KL$, where y : output and K, L : inputs. If the minimum cost of production at $r = w = 1$ (r, w : input prices) is equal to 4, find the value of y . 6+4
3. a) Consider the cost function of a competitive firm: $C(q) = q^2 + 1$. Derive the short run supply function. Establish the relation between producer's surplus and profit.
- b) Suppose that two firms face a linear market demand curve $p(y) = a - by$ (p : price and y : output) and each of them has a constant marginal cost, c . Solve for the Cournot equilibrium output. 4+6

4. a) What is indirect utility function?
b) State and prove the Roy's identity.
c) Suppose an individual has a utility function:
 $u(x_1, x_2) = v(x_1) + x_2$ (x_i : quantity consumed of i th good, $i = 1, 2$.) Draw the Engel curve for the good 1. 2+5+3
5. Explain Arrow's impossibility theorem and its relevance in attaining social welfare. 10
6. Explain Bergson social welfare function. 10
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