Name jiitsimplified Enrollment No. jiitsimplified

Jaypee Institute of Information Technology, Noida
End Semester Examination, 2014
B.Tech / VII Semester

Course Title: Managerial Economics
Course Code: 10B11PD311

Maximum Time : 2 hours
Maximum Marks : 35 Marks

1. A firm in a perfectly competitive market has a total cost function given by $TC = 2q^2 + 40$, and price, $P = 16$. Calculate the profit in the short run. Will this firm operate or shutdown in the short run? 3

2. A study has indicated that the price elasticity of demand for a medicine Megrot as a migraine medication is -4.0 but as a transplant drug it is -1.5. The marginal cost is $5 per dose. Assuming you can price differently for the two different types of customer (maximizing profit) of the same basic drug what would be the prices in the two markets? 2

3. The production function of a biscuit company is given by: $Q = 48L + 4L^2 - 1/3\ L^3$. Determine the range of labour in the three stages of production. 3

4. Complete the following Cost table: 2

Quantity	1	2	3	4
Total Cost	90			180
Average Variable Cost		27		30
Marginal Cost	30		27	

5. Suppose that a monopolist firm has a demand function given by: $P = 15 - 0.05Q$. Assume further that the total cost function of the monopolist is given by: $TC = Q + 0.02Q^2$. 3
   (a) Find the point of profit maximization.
   (b) Find profit maximizing price, output and profit of the firm if the cost has been increased by Rs 1 per unit of output.

6. Suppose perfectly competitive industry produce breads at a constant marginal cost of Rs 10 per bread. Once the industry is monopolized, the marginal cost rises to Rs 12 per bread. Suppose the market demand for breads is given by the following equation: $Q = 1000 - 50P$. Calculate : 5
   (a) The perfectly competitive and monopoly output and prices.
   (b) The total loss of consumer surplus under monopolization of bread industry.
   (c) Dead Weight Loss

7. The two beverages companies, Branco and Petrico are duopolists who produce identical products. Demand for the beverages is given by the following linear demand function: $P = 200 - q_1 - q_2$, where q_1 and q_2 are the quantities produce by the respective firms and P is the selling price. Total Cost functions of the two companies are: $TC_1 = 1500 + 55q_1 + q_1^2$ and $TC_2 = 1200 + 20q_2 + 2q_2^2$. Assume that the firms form a cartel to act as a monopolist and maximize total industry profits: 5
   (a) Determine the optimum output and selling price for each firm.
   (b) Determine Branco's and Petrico's individual profit and also calculate total cartel's profit.

8. The attendance (x) in hundreds at a race track and the amount (y) in million of dollars was bet on six selected days is given in the following table: 4

X	117	128	127	119	131	135
Y	2.07	2.80	3.14	2.26	3.40	3.89

Find a 90% prediction interval for the amount bet when the attendance is 12000.
Given: $\hat{Y} = -8.109 + 0.088X$, $t_{\text{table value}} = 2.132$, $\sum(Y_i - \bar{Y})^2 = 2.39$.

9. Differentiate between the following: 6
   (a) Demand pull inflation & Cost push inflation
   (b) Gross Domestic Product & Net National Product
   (c) Cash Reserve Ratio & Statutory Liquidity Ratio
   (d) Devaluation & Depreciation of currency
   (e) Expansionary & Contractionary Policy
   (e) Income & Expenditure approach of calculating GDP

10. Explain the phases of Business Cycle in detail. 2