

[This question paper contains 4 printed pages.]

Your Roll No. ....

3309

J

**B.Tech. (ME/CE)/I**

Paper EME/ECE-104—ENGINEERING  
ECONOMICS AND ACCOUNTANCY

Time : 3 Hours

Maximum Marks : 70

(Write your Roll No. on the top immediately  
on receipt of this question paper.)

Attempt **three** questions from Group A and  
**two** questions from Group B.

**Group 'A'**

1. (a) State the law of demand and show it through a demand schedule and a demand curve. What are the exceptions to the law of demand ? 7
- (b) What do you mean by Price elasticity of demand ? How is it different from Income elasticity of demand ? From the demand function  $Q = 600/P$ , show that total expenditure on the commodity remains unchanged as price falls. Estimate elasticity of demand along the demand curve at  $P = \text{Rs. } 4$  and  $P = \text{Rs. } 2$ . 7
2. (a) What is meant by utility ? Distinguish between Total utility and the Marginal utility. Show that the total utility is maximum when marginal utility equals zero. 7

[P. T. O.]

- (b) A manufacturer believes that his sales (Y) are mostly influenced by cost (X) and the equation is  $Y = a + bX$ . According to business data  $\Sigma Y = 73$ ,  $\Sigma X = 70$ ,  $\Sigma XY = 1063$ ,  $\Sigma X^2 = 1042$ . With the help of regression technique, find the value of 'a' and 'b'. Also point out what is significance of this technique in economic analysis. 7
3. (a) Under what conditions are isoquants convex to the origin? Suppose there are some commodities which can be produced with only labour, with only capital or with combination thereof? Draw an isoquant for this kind of productive activity? How does the MRTS behave? 7
- (b) Do you agree that Perfect Competition is a hypothetical situation?
- The demand function faced by a firm is  $Q = 50 - 0.5P$  and its total cost function is  $TC = 10 + 0.5Q^2$ . Find the output at which the profit of the firm will be maximum. And also find the price it will charge. 7
4. (a) Define average and marginal cost of a variable input. When marginal cost begins to decline, what happens to the average cost? 7
- (b) How are the revenue and cost curves under monopoly different from those under perfect competition? How are Average Revenue (AR) and Marginal Revenue (MR) curves related to one another? 7

