

Microeconomics I (ECO 202)

MidSemester Examination

Total Marks : 30 Points, Time : 2 Hours

1. Consider the uncompensated demand function of any good. Suppose the price of the good is increased. Suppose that the uncompensated demand for that good changed due to such a price change. Explain why the substitution effect component will be non-positive in this situation.

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2. In a two good economy, show that if the utility function is homogeneous (of any degree), then for any prices p_1, p_2 and any income $m > 0$,

$$x_i(p_1, p_2, m) = mx_i(p_1, p_2, 1) \text{ for all } i \in \{1, 2\}$$

Here $x_i(p_1, p_2, m)$ denotes the uncompensated demand function for good i .

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3. For the utility function $u(x_1, x_2) = \max\{x_1 + 1, 2(x_1 + x_2)\}$, calculate the uncompensated demand functions for any prices p_1, p_2 and any income m . Calculate the elasticity of the demand functions calculated before.

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4. Given the production function

$$f(k, l) = (k - 1)^\alpha (l - 2)^{\frac{1}{3} - \alpha}, \text{ where } \alpha > 0$$

calculate the long run cost function, long run average cost function and long run marginal cost function. You can assume that both the input prices are 1. Using these curves or otherwise, calculate the supply function of the output.

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