Introduction to Microeconomics

Week 1

TA: Arti Agarwal

IIT Kanpur

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Question 1

In economics, how do we answer the fundamental questions - 'what to produce', 'how to produce' and 'for whom to produce'?

- scarcity
- allocation
- choice
- individual

Question 2

Which of the following does not affect the demand of a good?

1. Availability of substitutes
2. Change in preferences of the agent
3. Change in productivity of labour
4. Expectations about future

Question 3

Maria is preparing for exams in economics and sociology. She has time to read 40 pages of economics and 30 pages of sociology. In the same amount of time, she could also read 30 pages of economics and 60 pages of sociology. Assume that the number of pages per hour that she can read of either subject does not depend on how she allocates her time.

1. How many pages of sociology could she read if she decides to spend all of her time on sociology and none on economics?

2. How many pages of economics could she read if she decides to spend all of her time on economics and none on sociology?

Question 4

Murphy was consuming 100 units of X and 50 units of Y . The price of X rose from 2 to 3. The price of Y remained at 4.How much would Murphy's income have to rise so that he can still exactly afford 100 units of X and 50 units of Y?

Question 5

An estimated world demand function for green coffee beans is
$Q = 8.56 - p - 0.3p_s + 0.1Y$ where Q is the quantity of coffee in millions of tons per year, p is the price of coffee in dollars per pound, p_s is the price of sugar in dollars per pound and Y is the average annual household income in high-income countries in thousands of dollars.

1. Is sugar a complement or a substitute for coffee?

2. If $p_s = 0.2$, and $Y = 35$, derive the demand function for coffee in terms of its price p.

3. If Y increases from 35 to 50, what happens to the demand curve for coffee? Draw on a diagram.

Question 6

Your maximum willingness to pay for a cup of tea is INR 30. At the Bangalore airport, the market demand for tea is given by $Q = 60 + 0.5Y - 3P$ where Q is the market demand for cups of tea in thousands per month, Y is average income of buyers in thousands of rupees per month, and P is price of a cup of tea.

In the month of February, Y is found to be 80, Q is found to be 40. What is the consumer surplus?

Question 7

Anna likes eating pizzas. But how much she values a pizza slice changes with the number of slices already consumed. The table shows her valuation of the *ith* pizza slice.

i	1	2	3	4	5	6	7
Value	150	120	100	90	75	50	30

Table 1: Pizza slice valuation of Anna

If the market price of one pizza slice is INR 80, how many pizza slices does she consume?

Question 8

Suppose that the demand function for movies is $Q_1 = 120 - p$ for college students and $Q_2 = 60 - 0.5p$ for other town residents. What is the towns total demand function? Carefully draw a figure to illustrate your answer.

Reference Reading

1. *The Economy 2.0: Microeconomics* by CORE Econ.

2. *Introduction to Economic Analysis v. 1.0*

3. *Workouts in Intermediate Microeconomics 6e* by Hal Varian

4. *Microeconomics* by Jeffrey Perloff

Thank you!

Contact arti21@iitk.ac.in for queries