

Shahjalal University of Science & Technology, Sylhet

Department of Computer Science and Engineering

Course No: ECO-105D

Assignment No: 01

Principles of Economics

Submitted To

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Section : A

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SELF TASKS

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Problem statement:

As a students of an engineering department why do you need to study economics?

Solution:

Economics is a social science concerned with the production, distribution and consumption of goods and services. Engineers are builders, designers and creators. They design and make things to sold in market, so they need a sound understanding how economy works to make profit.

Also many engineers becomes the leading persons of lech industries. So, knowledge of economies help them to trun their company smoothly and make progress. The knowledge of current mankets and buyers demand can be observed through economics. That's why an engineering student need to study

economics.

Problem statement:

Distinguish between microeconomics and macroeconomics

Solution:

Microeconomics studies individuals and business decisions, while macroeconomics analyzes the decisions made by country and governments.

Microeconomies focuses on supply and demand, and other forces that determines price levels.

Macroeconomics looks at the economy as a whole, trying to determine its course and nature.

Investors can use microeconomics in their investment
decisions, while macroeconomics is an analytical
tool mainly used to craft economic and fiscal
Policy.

Problem statement:

Driaw a circular flow diagram for three-sector

Solution;

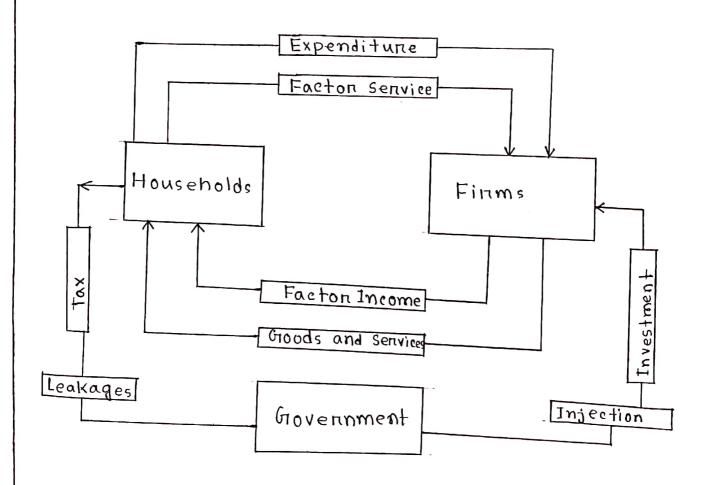


Figure: Flow chart of three-sector economy.

Problem statement:

How much BDT 10,000 of year 1991 worth today?

Solution:

Herre,

consumer Price Index (CPI) in 2020 = 276.16 and CPI in 1991 = 34.30

So, the inflation in 2020 is,

Inflation
$$\pi a + e_{2020} = \frac{CPI_{2020} - CPI_{1991}}{CPI_{1991}} \times 100$$

$$= \frac{276.16 - 34.30}{34.30}$$

= 7.0513%

So, BDT 10,000 of Year 1991 Wort (10000 x 7.05%)
OR 80,500 +k.

Problem Statement: Draw IC for perifect complements and perifect substitute

Solution:

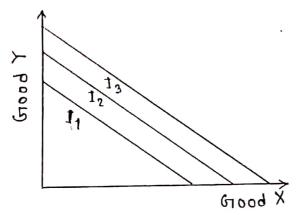


Figure: Indifference curves where Goods X and Y are perifect substitutes.

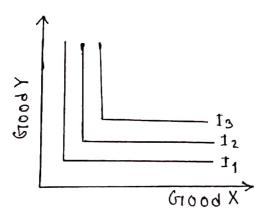


Figure: Indifference curves for perfect complements X and Y.

Problem statement.

- a. Given, P1 = tk 10, P2 = tk5 and m = tk 100. State a budget line equation and give a graphical shape.
- b. What will happen to the BL if P1 becomes double?

Solution

a) We know,

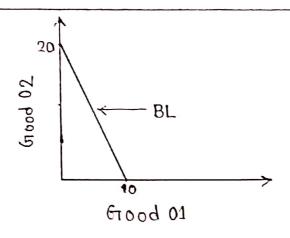
$$P_{y}Q_{y} + P_{x}Q_{x} = m$$

 $\Rightarrow P_{2}Q_{2} + P_{1}Q_{1} = m$

$$X-intencept = \frac{m}{P1} = \frac{100}{10}$$
$$= 10$$

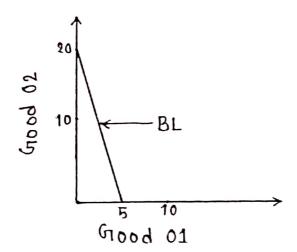
Y- intercept =
$$\frac{m}{P2} = \frac{100}{5}$$

and Slope of BL =
$$\frac{-P1}{P2}$$
$$= \frac{-10}{5}$$
$$= -2$$



If PI becomes double then,

X-intercept = $\frac{m}{PI} = \frac{100}{2 \times 10}$ Slope of BI = $\frac{-P1}{P2} = \frac{-2 \times 10}{5}$ =-4



So, if p1 becomes double Y-intercept will be fixed but x-intercept will move toward the origin.