Principles of Microeconomics

ASSIGNMENT- II

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Que 1:-

Solution:- The opportunity cost of accepting the position at the Bureau of Engineering Research is 12,00,000 - 10,50,000
= 1,50,000/- Rs a year. "

Que 2:-

Solution:-

(a)

Chocolates consumed (No)	0	1	2	3	4	5	6	7
Total utility (Rs)	0	25	45	60	70	75	75	70
Marginal utility (Rs)	-	25	20	15	10	5	0	-5
Decision Rule P=15	-	MU>P	MU>P	MU=P	MU<P	MU<P	MU<P	MU<P
Decision Rule P=20	-	MU>P	MU=P	MU<P	MU<P	MU<P	MU<P	MU<P

(b) If chocolates is are sold at Rs. 15 per unit, Then I will consume 3 chocolates.

(c) If chocolates are sold at Rs. 20 per unit, Then I will consume 2 chocolates.

(d) If chocolates are available for free, then I will consume till I get full satisfaction.

Que 3:-

Solution:- The relevant Principle of economics applied here is "Principle 5" i.e. Trade can make everyone better off.
Since, Mrinal is efficient in producing Rice and Kunal is efficient in producing potato, thus trading mutually will be beneficial for both of them.

2.5 hrs Per Goods.

	Before Trade		After Trade		Gain
	Rice (kg)	Potato (kg)	Rice (kg)	Potato (kg)	
Mrinal	25	10	50		
Kunal	10	25			
Total	35	35			

2.5 hrs Per Goods.

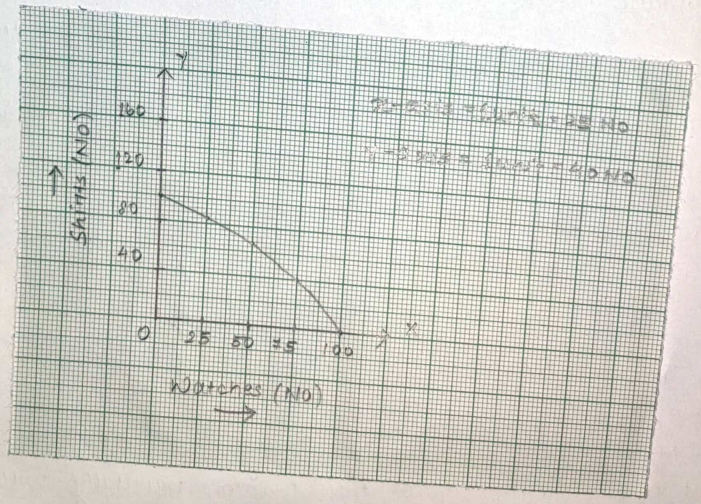
Person	Production and consumption before Trade in 5hrs		Production After 5 hours		Production & consumption After Trade		Gain Trad
	Rice	Potato	Rice	Potato	Rice	Potato	Rice
Mrinal	25	10	50	-	30	20	-
Kunal	10	25	-	50	20	30	20
Total	35	35	50	50	50	50	20

Therefore, If they trade off mutually both will have have a Profit of 15kg ~~AA~~ individually.

Que 4:-

Solution:-

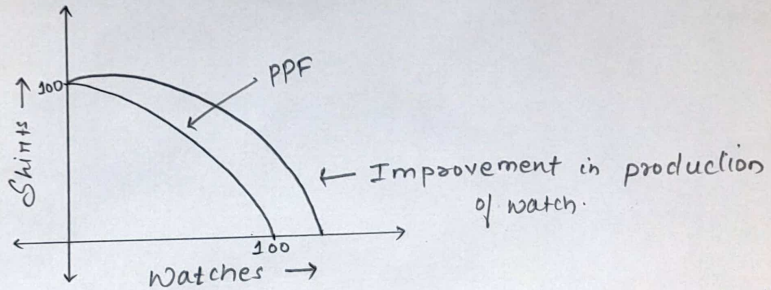
(a)



Productive Alternative	Watches (NO)	Shirts (NO)	Opportunity cost per unit Production of watch
A	0	100	10/25 = 0·4
B	25	90	20/25 = 0·8
C	50	70	30/25 = 1·2
D	75	40	40/25 = 1·6
E	100	0	-

∵ The opportunity cost per unit is not constant thus the PPC is not a straight line but a curve.

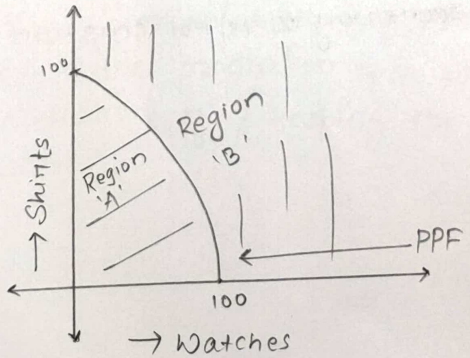
c)



∵ There is an improvement in technology for the production of watch only. Thus the production of watches will increase while the production of shirts will remain same.

d) Frontier means the lines or border which divides or separated region.

Production possibilities curve is termed as Production possibilities frontier because the PPC's curve separate the region which help us to understand whether a region is economically sufficient feasible or not.



In the given curve region 'A' is economically inefficient while region 'B' is economically insufficient.

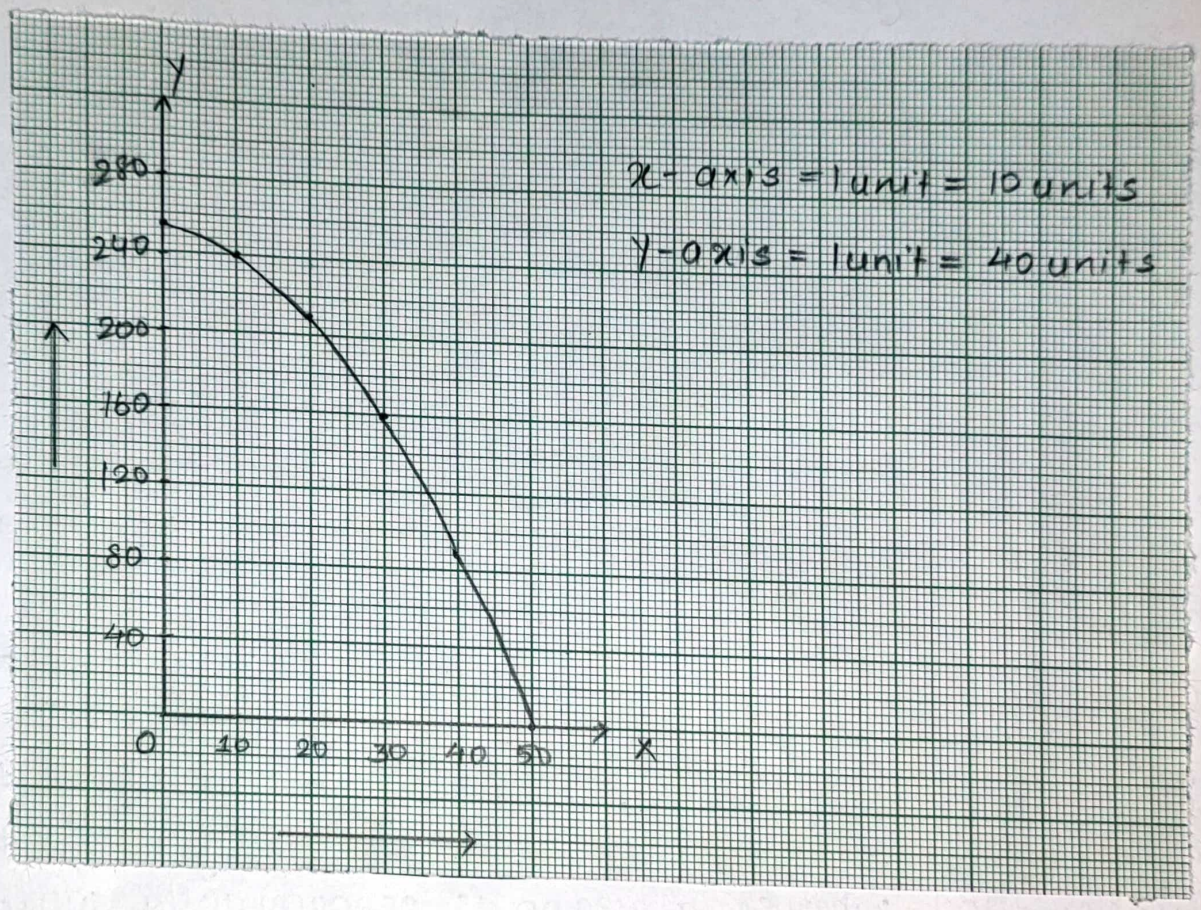
Que 5:

Solution: (a)

x	y
0	250
10	240
20	210
30	160
40	90
50	0

$$\left[\text{where, } y = \frac{2500 - x^2}{10}\right]$$

(b)



It takes the shape of convex outwards because the opportunity cost per unit of y is decreasing. x is not constant.

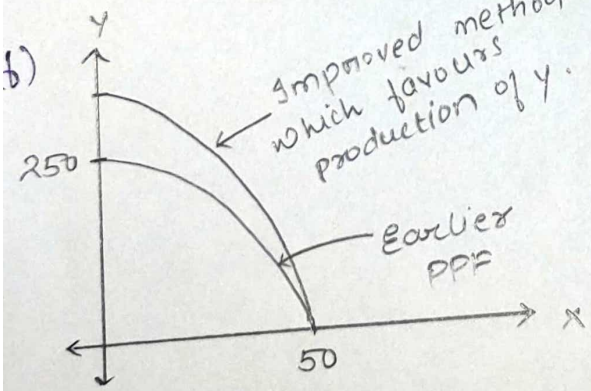
x	y	opportunity cost of x	opportunity cost of y
0	250	10/10 = 1	10/10 = 1
10	240	30/10 = 3	10/30 = 0.3
20	210	50/10 = 5	10/50 = 0.2
340	160	70/10 = 7	10/70 = 0.142
450	90	90/10 = 9	10/90 = 0.11
50	0	-	-

Opportunity cost per unit of x is increasing while opportunity cost per unit of y is decreasing.

1) According to Principle 1 (People face trade off) i.e. to produce something we have to give up something.
Therefore, to produce more x we have to reduce y.

2) The opportunity cost per unit production is not constant hence the shape of PPF is not a straight line but a curve.

b)



∴ The improved method of production is being developed which favours the production of y which will increase the maximum production of y keeping the maximum production of x as the same.

(9) If resources increases from 2500 to 3000, then

$10y^2 + x^2 = 3000$

$\boxed{x = 0}$; $\boxed{y = 300}$

And,

$\boxed{y = 0}$; $x = \sqrt{3000}$

$\boxed{x = 10\sqrt{30}}$

∵ The resources is increasing the new PPF will shift outward from the previous PPF curve.