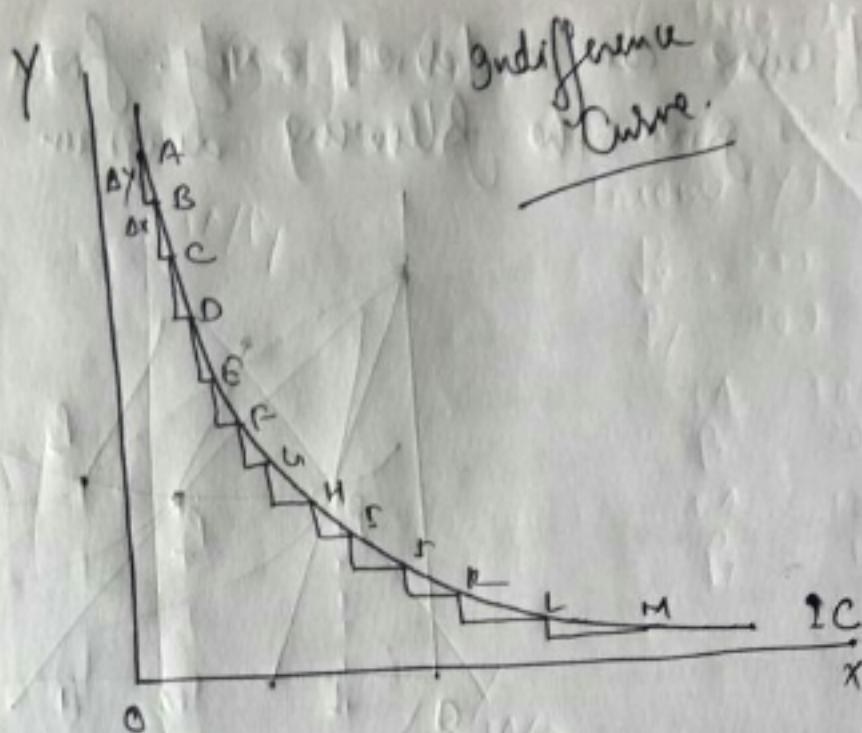
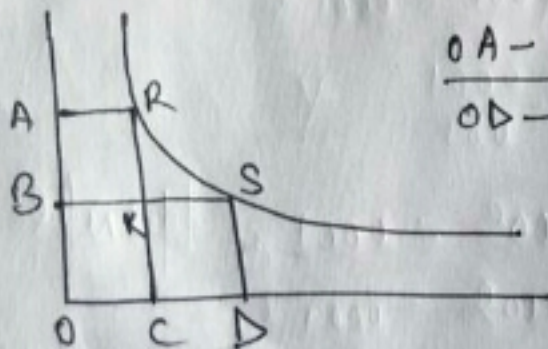




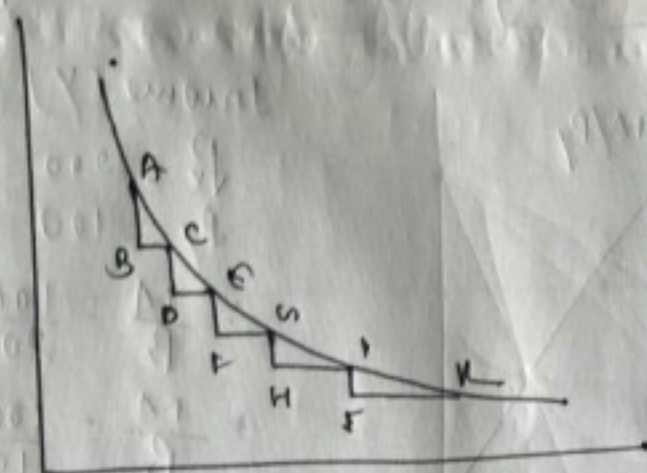
$$\left[\begin{array}{l} A \text{ to } B - \Delta Y > \Delta X \\ H \text{ to } I - \Delta Y = \Delta X \\ L \text{ to } M - \Delta Y < \Delta X \end{array} \right]$$

Slope decreases.

Marginal Rate of Substitution.

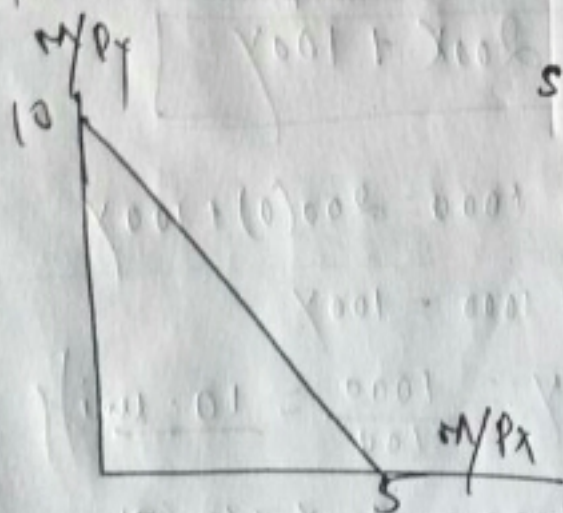


$$\frac{OA - OB}{OD - OC} = \frac{RK}{KS}$$



$$\frac{AB}{BC} > \frac{CD}{DE} > \frac{EF}{FG} > \frac{GH}{HI}$$

this implies that the marginal rate of substitution tends to diminish



Suppose income = 100

$$P_x = 20 \text{ p/u}$$

$$P_y = 10 \text{ p/u}$$

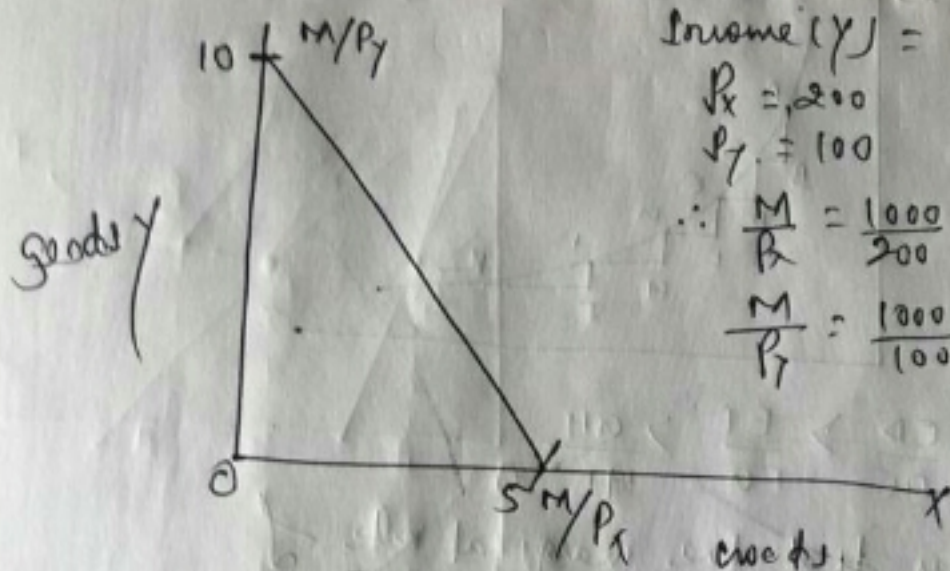
$$BL \Rightarrow M = P_x X + P_y Y$$

$$100 = 20X + 10Y \rightarrow \text{intercept } Y = \frac{100}{10} = 10$$

$$\text{intercept } X = \frac{100}{20} = 5$$

Budget Line

(There are two goods X and Y & income)



$$\text{Income (Y)} = 1000$$

$$P_X = 200$$

$$P_Y = 100$$

$$\therefore \frac{M}{P_X} = \frac{1000}{200} = 5$$

$$\frac{M}{P_Y} = \frac{1000}{100} = 10$$

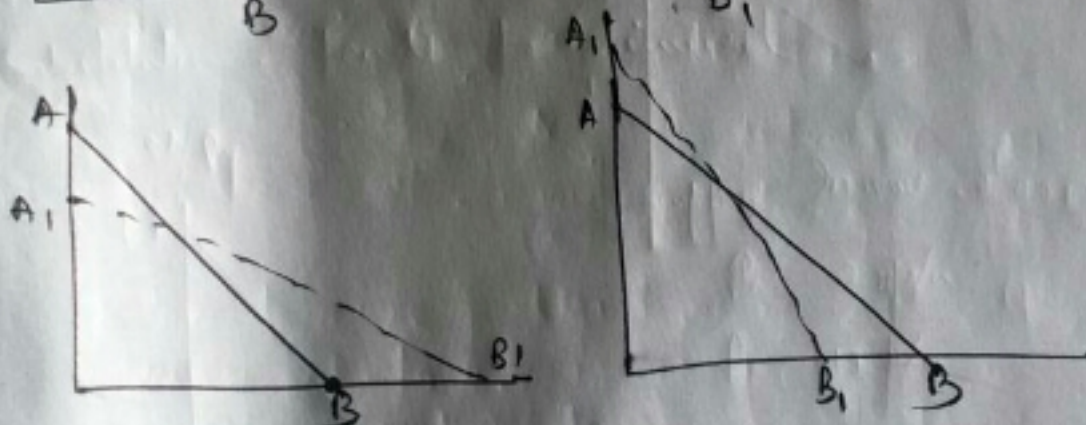
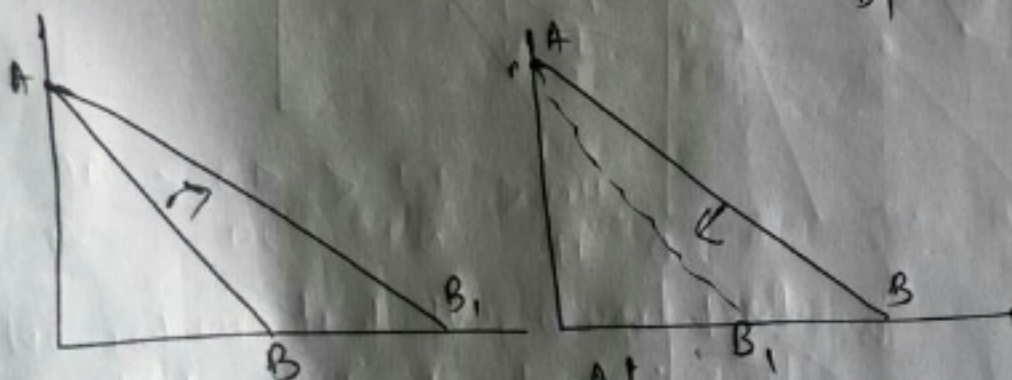
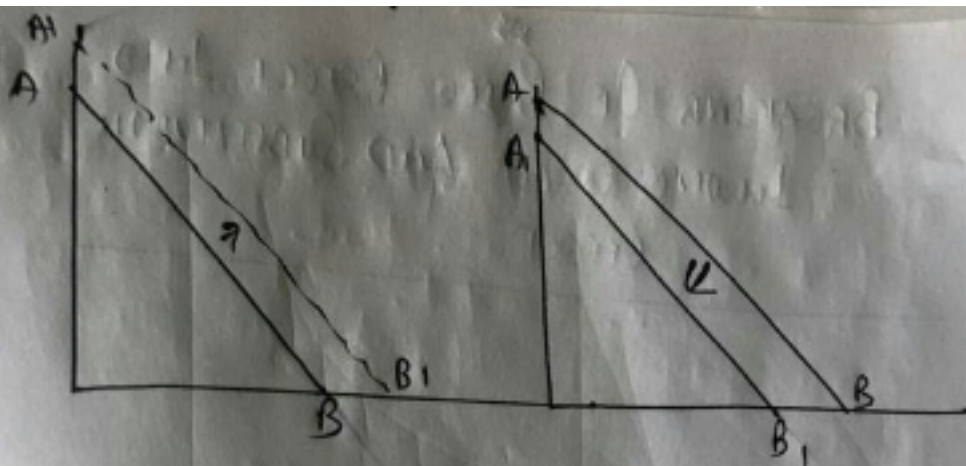
$$BL \Rightarrow \boxed{M = P_X X + P_Y Y}$$
$$\boxed{1000 = 200X + 100Y}$$

$$Y \text{ Intercept} \Rightarrow 1000 = 200(0) + 100Y$$
$$\Rightarrow 1000 = 100Y$$

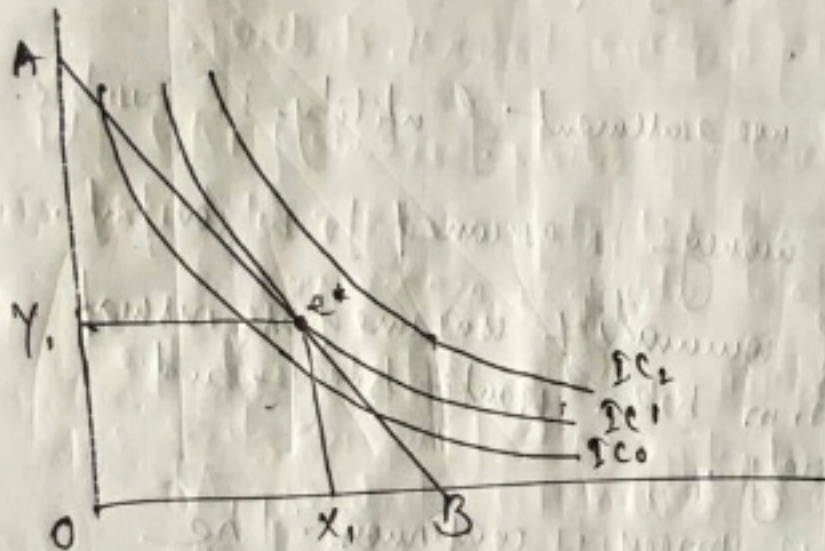
$$Y = \frac{1000}{100} = 10 \text{ units}$$

$$X \text{ Intercept} \Rightarrow 1000 = 200X + 100(0)$$
$$\Rightarrow 1000 = 200X$$

$$X = \frac{1000}{200} = 5 \text{ units}$$



CONSUMER EQUILIBRIUM



Slope Budget line is $\frac{P_x}{P_y}$

slope of the IC = $MRS_{xy} = \frac{MU_x}{MU_y}$

At eqm, slope of BL = slope of IC

$$MRS_{xy} = \frac{P_x}{P_y}$$

$$\frac{MU_x}{MU_y} = \frac{P_x}{P_y}$$

$$\frac{MU_x}{P_x} = \frac{MU_y}{P_y}$$

The point of consumer Equilibrium is the point where budget line just touches a particular indifference curve i.e. the point where the budget line is tangent to a particular IC. This is the point of max. satisfaction.