INCOME ELASTICITY

$$E_I = \frac{\% \Delta Q_D}{\% \Delta I} \Big|_{c.p}$$

$$= \frac{\Delta Q_D}{\Delta I} \cdot \frac{I}{Q_D}$$

if small change in I

$$E_I = \left(\frac{\partial Q_D}{\partial I}\right) \cdot \left(\frac{I}{Q_D}\right)$$

if E_I is positive : Goods/Com. is normal.

if E_I is negative : Good/com. is Inferior.
(eg. refined oil vs. oliveoil)
Maruti car vs Mercedes Benz car)

E_I

$0 \le E_I \le 1$	$E > 1$
1 % change in I will lead to less then or equal to 1% change in Q_D.	1 % change in I will lead to more then 1 % change in Q_D
∴ com. is Essential/ Necessary (eg. salt, sugar)	∴ Com. is Luxury / ~~Non~~ Non essential.

$E_I < 0$ = Inferior Commodity

$0 \leq E_I \leq 1$ = Necessary / Essential commodity

$E_I \geq 0$ = Normal Commodity

$E_I > 1$ = Luxury Commodity

CROSS ELASTICITY

$$C_E = \left. \frac{\% \, \Delta Q_D \text{ of Com } X}{\% \, \Delta P \text{ of Com } Y} \right|_{C.P}$$

a)- If Com. X and com Y are subsititutes com.

$C_E > 0 \quad (P_Y \uparrow, Q_D^X \uparrow)$

b)- If Com. X and Com Y. are complements

$C_E < 0 \quad (P_Y \uparrow, Q_D^X \downarrow)$