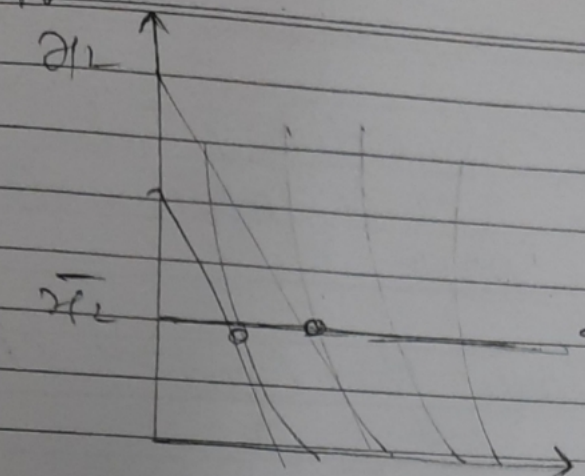
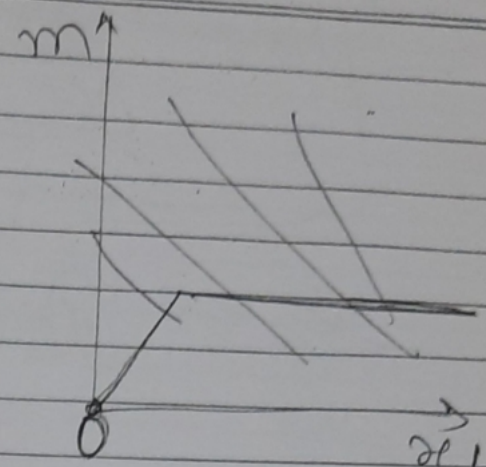
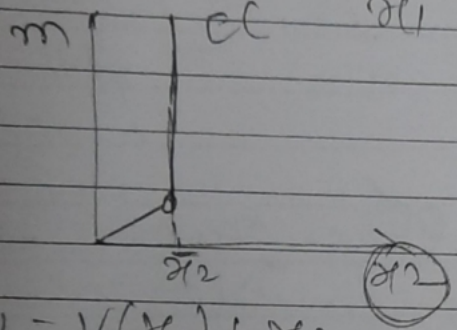
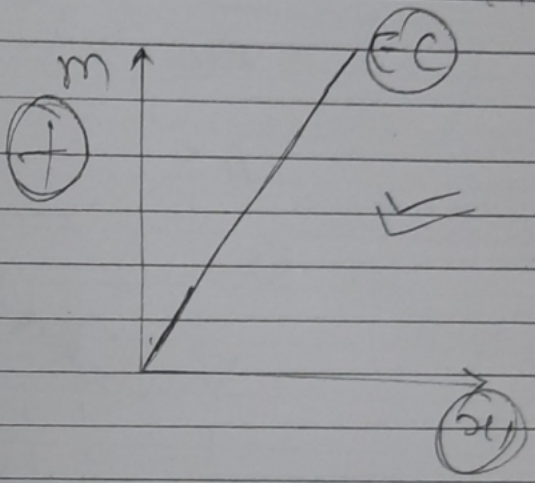
non-linear

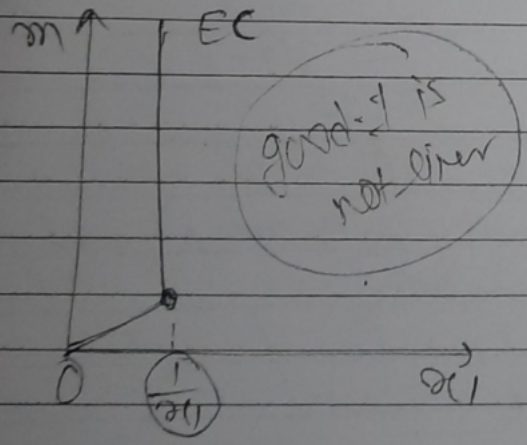






$U = V(x_1) + x_2$

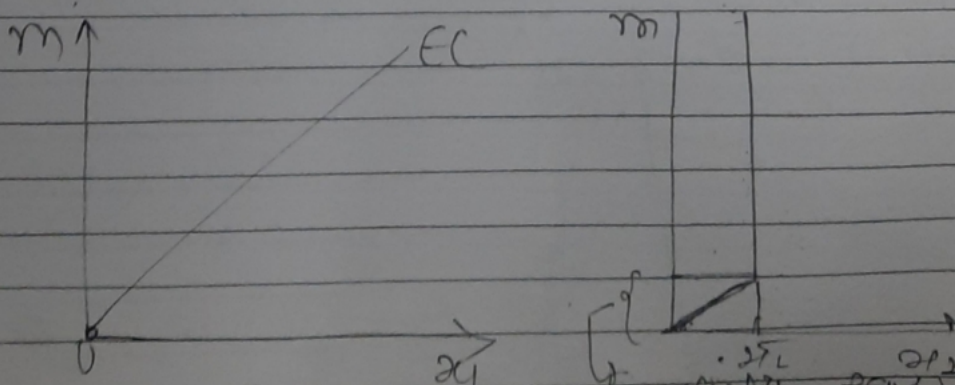




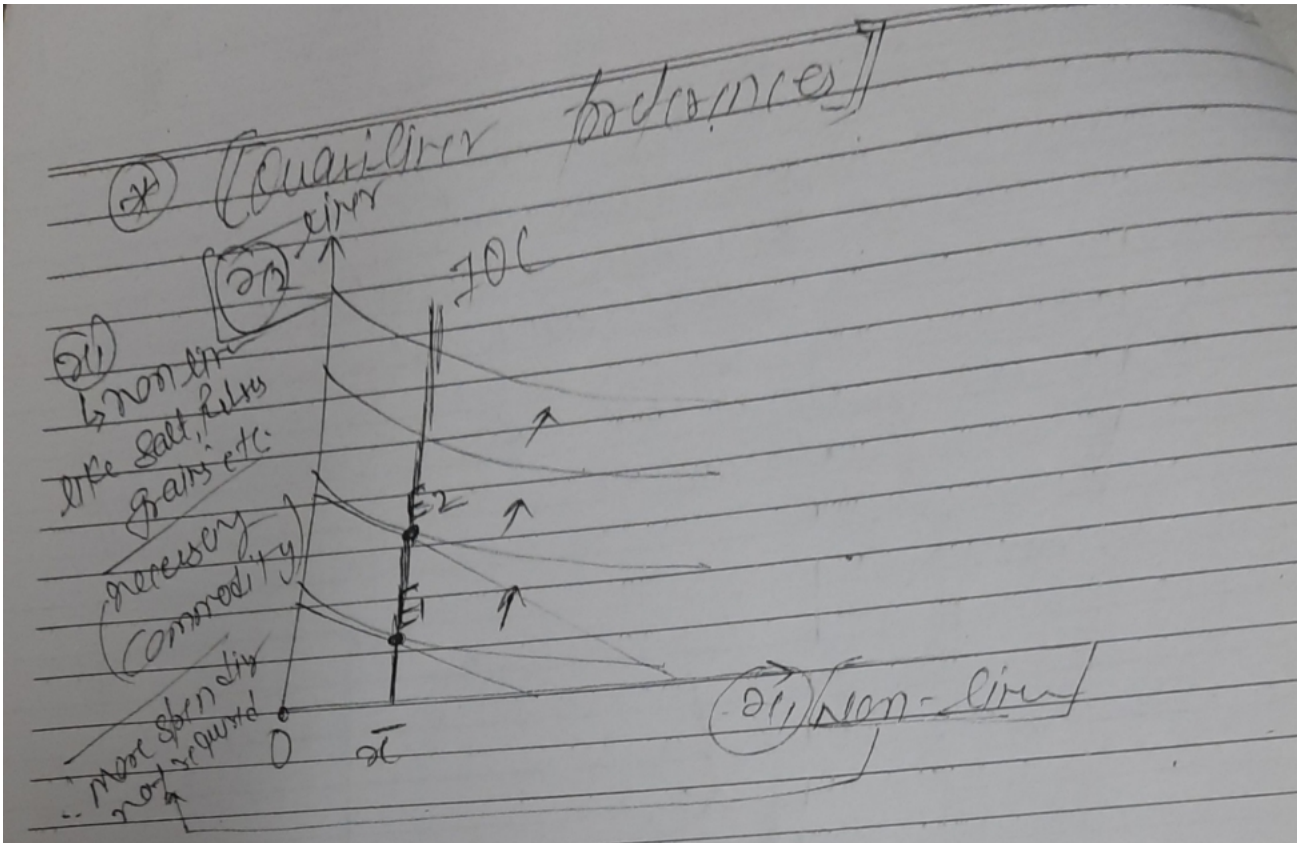
good-1 is not linear

$U = x_1 + V(x_2)$

global = ∞

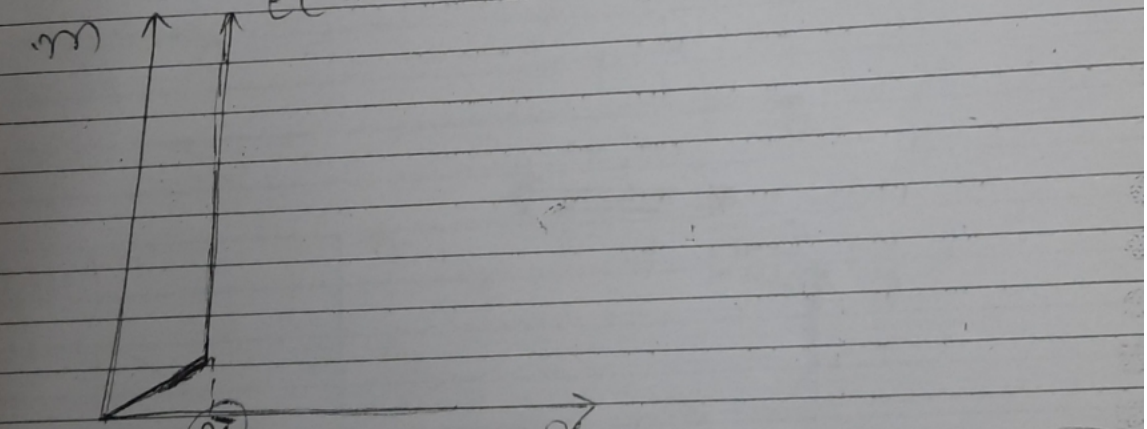


(x) Quasi-linear indifference

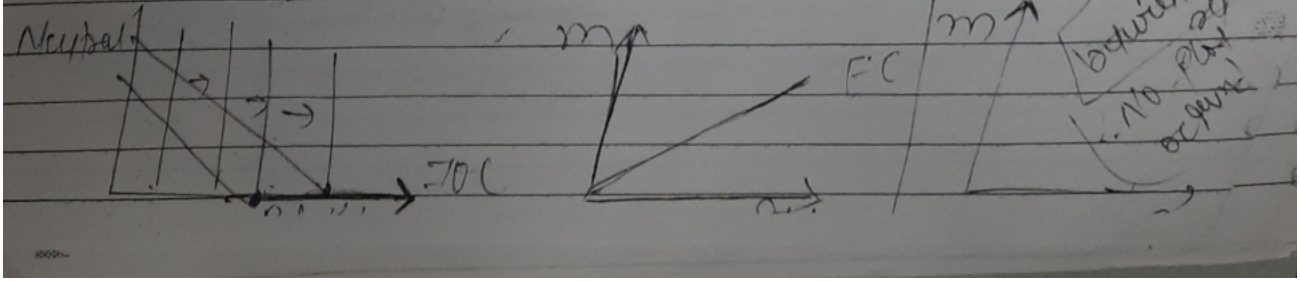


(ii) Non-tax like Salt, Pulses, Grains etc: necessary commodity

More quantity required



Good More consumption as required. Like Salt can't consume more.



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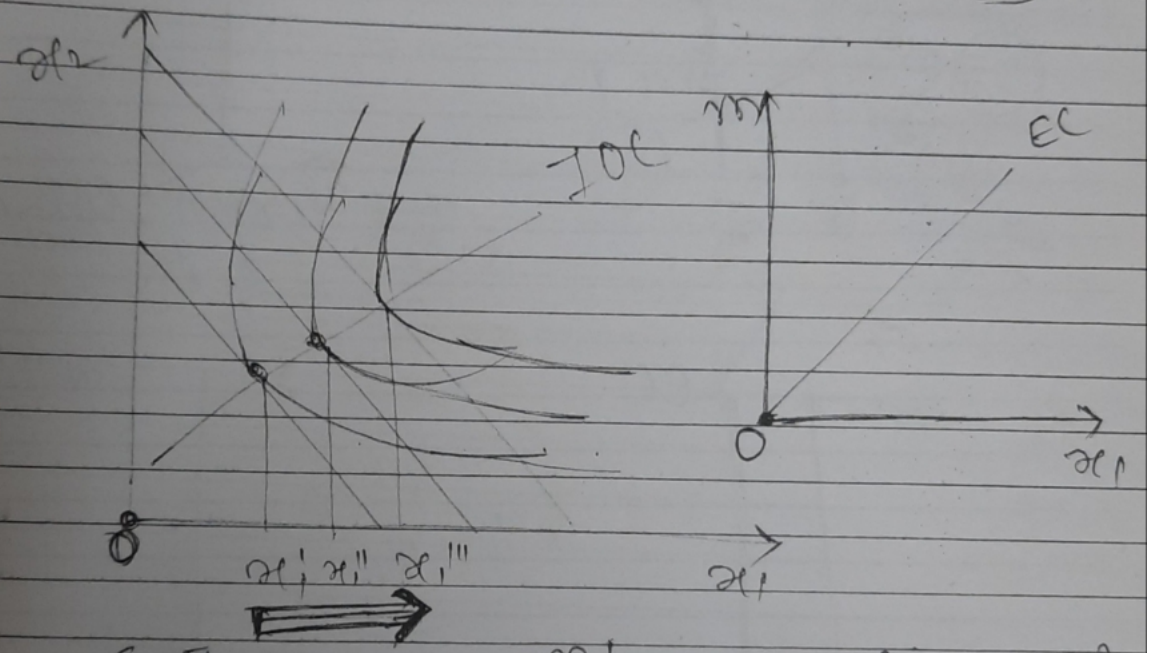
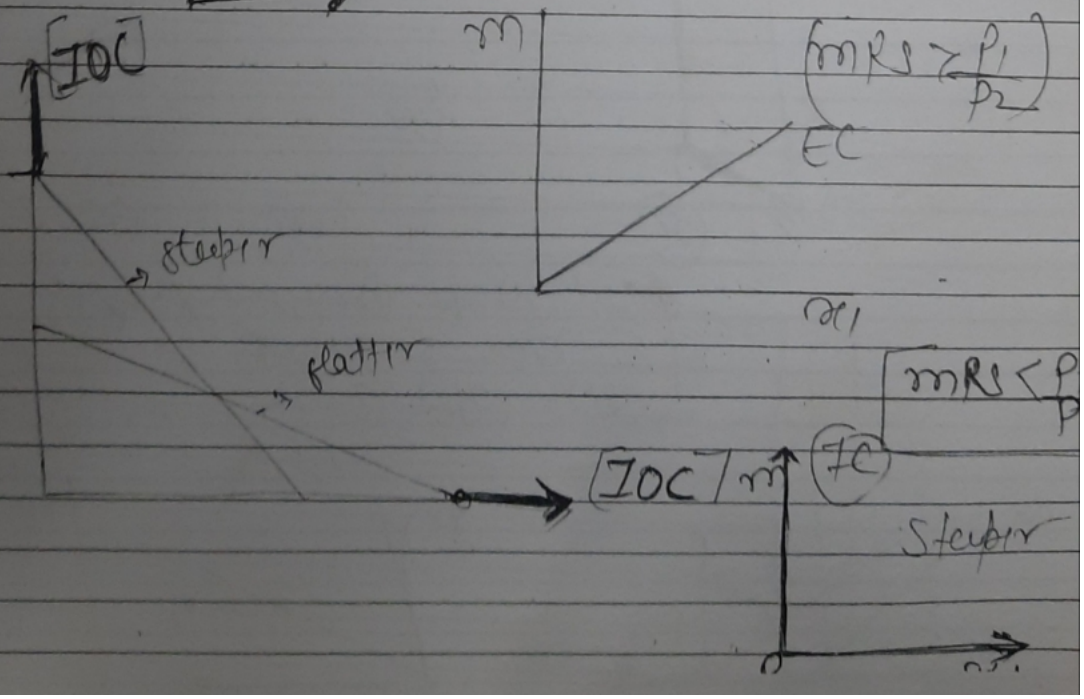
tB ≠ tD

∴ IH doesn't satisfied.
∴ It's non-homothetic preference.

* [[IOC and EC for homothetic preference.]]





Homothetic preferences

* Preferences are said to be homothetic if consumer demand depends only on the ratio at which goods are consumed.

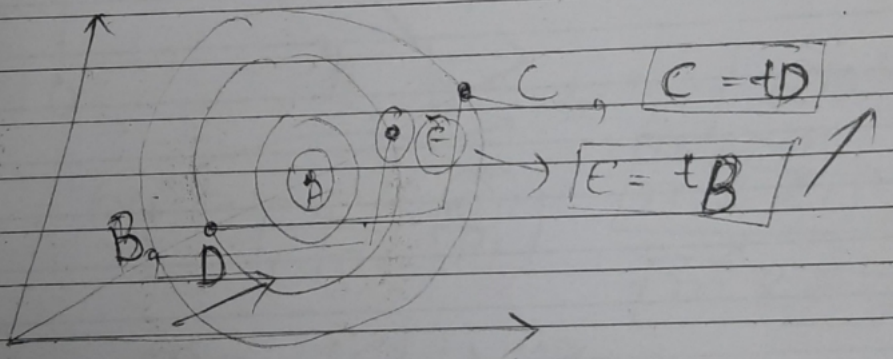
i.e $(x_1, x_2) \geq (y_1, y_2)$

$\Rightarrow (2x_1, 2x_2) \geq (2y_1, 2y_2)$

$\Rightarrow \boxed{(tx_1, tx_2) \geq (ty_1, ty_2)}$

Perfect substitute, Perfect Complements & Cobb-Douglas are all homothetic preference.

Note:-



$B = (x_1, x_2)$

$B = (y_1, y_2)$

$\boxed{D \geq B}$ — (i)

$\boxed{E \geq C}$

$\boxed{tB \geq tD}$ — (ii)

from (i) & (ii)