

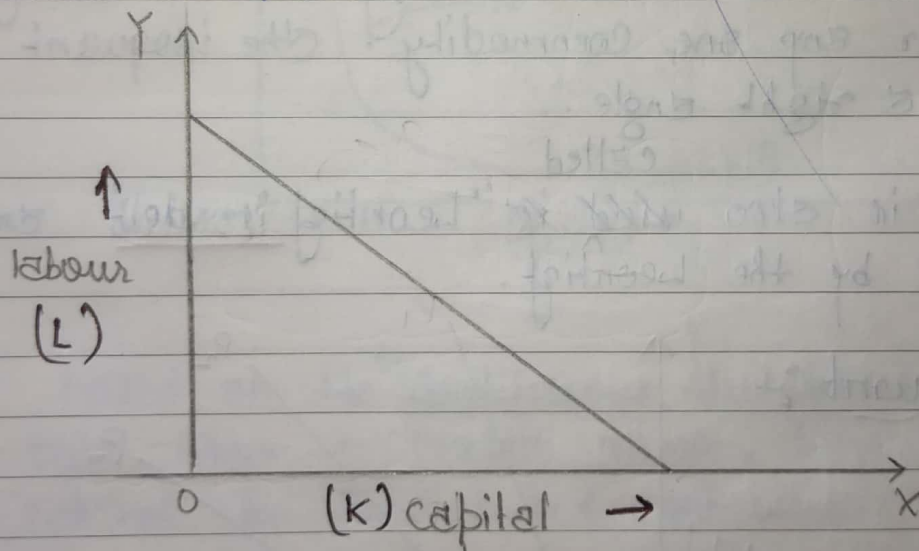
→ Isoquant / Equal Production Curves / Production isoquant curve :-

Isoquant curves are similar to the indifference curve of the theory of consumer's behaviour.

An equal isoquant curve represents all those input combinations which are capable of producing the same level of output. That's why it is called iso + quant = Equal quantity.

- The Production isoquant can be of different types based on the degree of substitutability :-

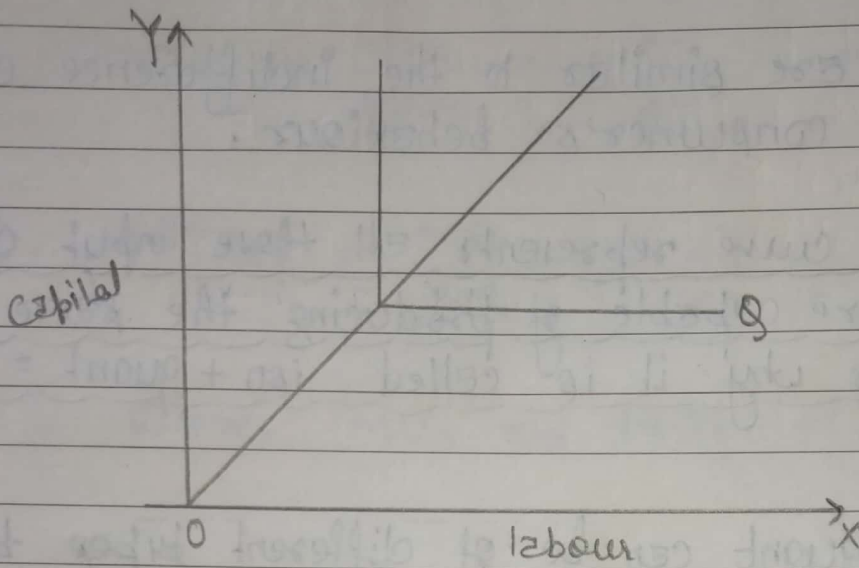
i). Linear Isoquant :



IMPORTANT NOTES

This type assume "perfect substitutability" of factors of production. A given commodity may be produced by using only capital, or by an infinite combination of K and L .

ii) Input - Output Isoquant :

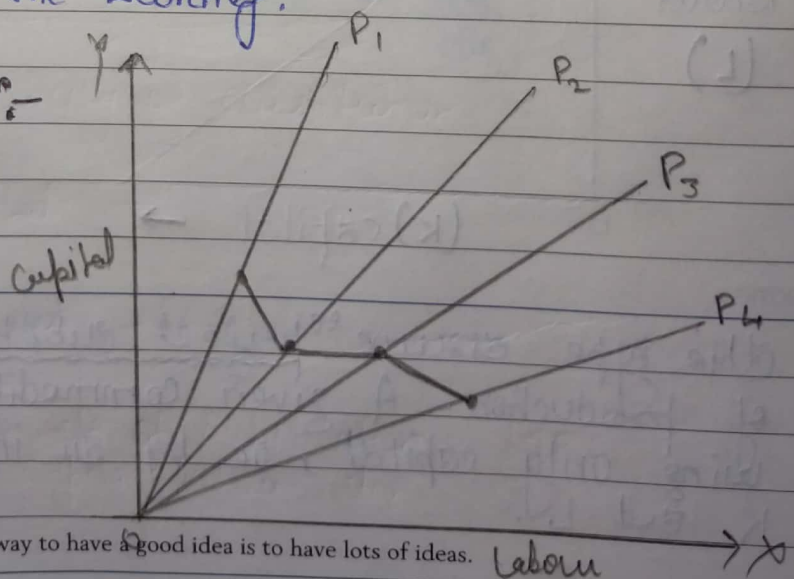


It assumes strict complementarity (i.e., zero substitutability) of factors of production. There is only one method of production for any one commodity. The isoquant takes the shape of a right angle.

called

This isoquant is also ~~used in~~ "Leontief isoquant" and used in I-O model by the Leontief.

iii) Kinked Isoquant :-



IMPORTANT NOTES

The best way to have a good idea is to have lots of ideas.

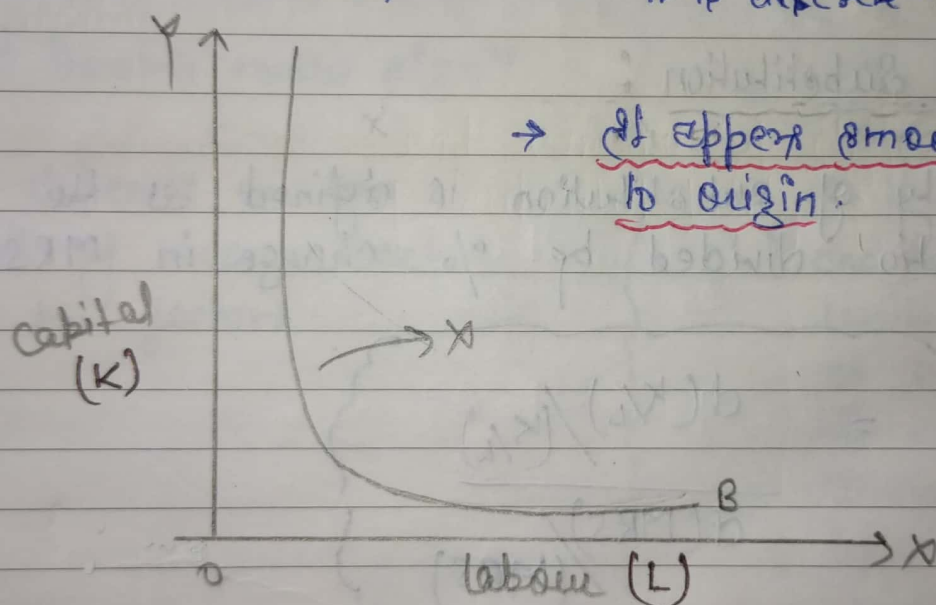
→ Based on "limited substitutability" of K & L .

→ Substitutability of the factor is possible only at the kinks.

→ This form of isoquant called "activity analysis-isoquant" or "linear-programming isoquant" (because it is basically used in linear programming)

→ It is more realistic isoquant used by engineers, managers, producer used it because it is discrete rather than continuous.

iv). Smooth Convex Isoquant :



→ It appears smooth & convex to origin.

→ based on the "continuous substitutability" of K & L only over a certain range, beyond which factor can not be substituted each other.

IMPORTANT NOTES

→ Traditional economic theory has mostly adopted the continuous isoquant, because they are mathematically simpler to handle by the simple rules of calculus.

• Properties of Isoquant :-

- Negatively inclined
- Isoquant lying above and to the right of another represents a higher output level.
- No two iso-quant can intersect each other.
- No isoquant can touch either axis.
- Convex to origin.

• Elasticity of Substitution :

The elasticity of substitution is defined as the % change in K/L ratio divided by % change in MRS.

$$\sigma = \frac{d(K/L)/(K/L)}{d(MRS)/(MRS)}$$

σ = elasticity of substitution

K = Capital

L = Labour.

Marginal rate of substitution = MRS

K/L = capital labour ratio

IMPORTANT NOTES