Class - B.Com - Part - I.

Subject: Business Economics and Environment

Topic : Iso-product curve

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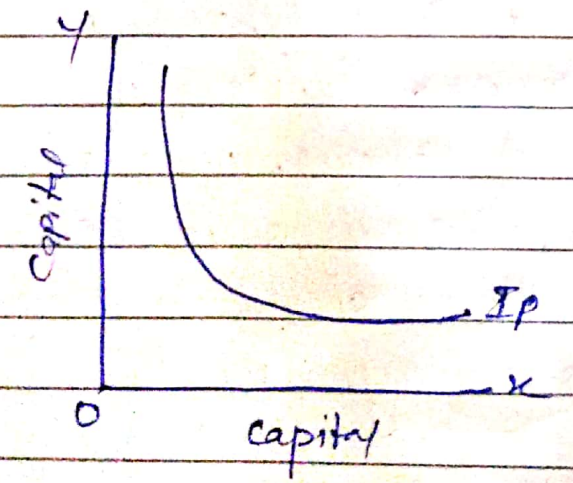
Properties of Iso-product Curve:-

1. Iso product is convex to the origin
2. Iso product is negatively sloped ie its slopes downward from left to right.
3. Higher iso product represents higher production
4. Two iso product never intersect each other.
5. Iso-product curve never touches axis.

1. Iso product is convex to the Origin:

The Iso-product is convex to the origin because the marginal rate of technical substitution (MRTS) between the inputs is diminishing. As shown in the tabular example of MRTS the ratio by which the input units of capital is substituted by labour units diminishes with more and more substitution of labour for capital. Thus the iso-product curve is conver to the origin.

If the isoproduct curve has beeen concave to origin, it would imply that the MRTS increa as more and more of labour is substituted for capital. And this would be against the assu ption that the iso-product curve is based on



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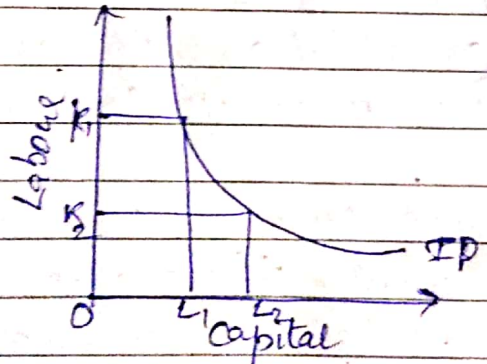
2. Iso-product is negatively sloped, slop downward sloping left to right :-

The Iso-product curve is neither upward sloping nor horizontal but always slopes downward from left to right. It is because the producer will have to give up some of the input units of capital to increase the input of labour when keeping the production amount unchanged.

Increasing input units of either of the factors without deducing the input of the other factor will result in increased production and its is beyond the principle of iso-product curve.



In the figure when OK_1 units of Labour were employed OL_1 units of capital were employed too when the input units of labour was increased to OL_2 the input of capital was increased to OL_2 the input units of labour was reduced ot OK_2.

Therefore, the curve is downward sloping from to right. And slope of any downward sloping curve is always negative.

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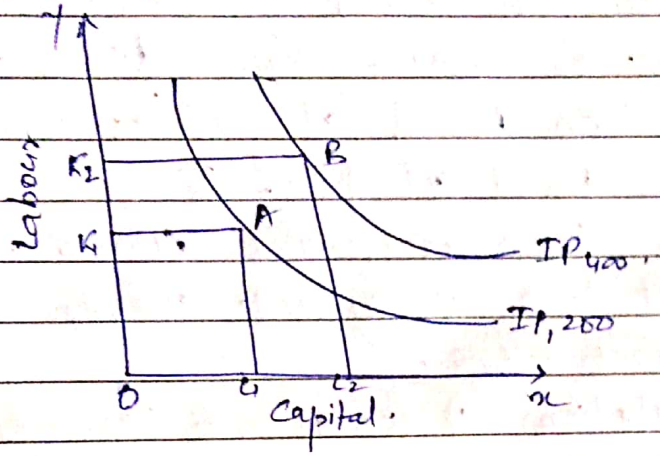
3. Higher isoquant represent higher production

The isoquant which is in higher stage has higher units of labour and capital combination. Greater combination of labour and capital makes large scale of production. So higher the isoquant curve greater will be the production level.

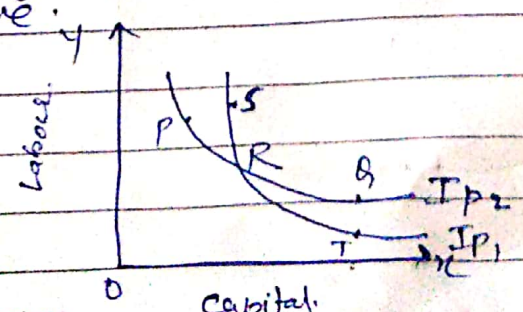


In the figure, we can see that there are two isoquant curve (IP_1 and IP_2) we can also see that the combination A lies on L_{P_1} and combination B lies on I_{P_2}

Combination A consists of OL_1 units of ~~labour~~ capital and OK_1 units of labour and OK_2 units of labour at point B. So we can says that product level at I_{P2} is higher than the production level at I_{P1}.

4. Two isoquants never intersect each other

Each isoquant curve is a respresentant of particular ~~or~~ o level of production. The level of production or output of a production process is same throughout the curve.



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In the abour figure IP_1 and IP_2 are two iso-product curves and R is the point where both the curve intersect

According to the principle of isoquant curve production level at point S = production level at point R = production level at point T

Also production level at point P = production level at point R = production level at point Q

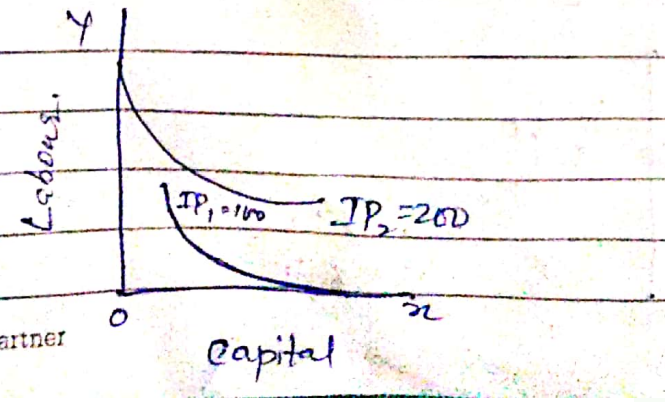
But production level at point S and point T = production level at point Q

Therefore, two isoquant curve cannot intersect. Yet two isoquant curves need not be parallel to each other.

The parallelism of isoquant curves depend upon the MRTS. The isoquant curves can be parallel only when the MRTS of both the curves are equal

5. Iso-product curve never touches axis:

If an Iso-product curves touches X axis it would means that the product is being produced with the help of x factor alone. without using factor Y. This is a logical absurdity that a single factor cannot product anything. Therefore IP_1 and IP_2 cannot be Iso-product curves as shown in fig.



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