

# LAW OF RETURNS TO SCALE

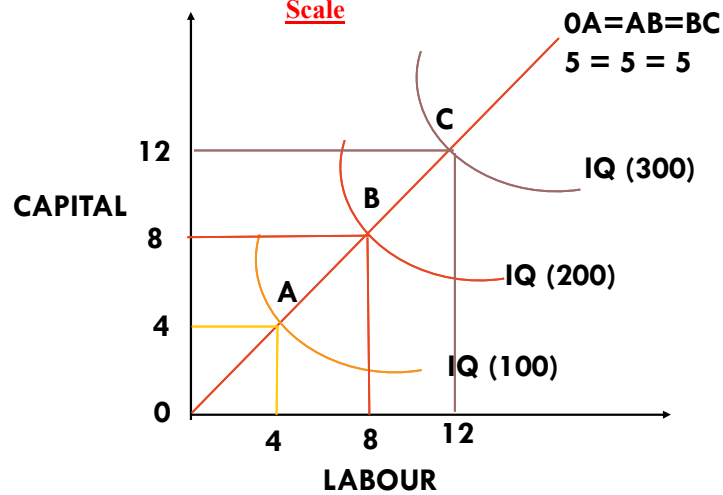
Q. DISCUSS THE LAW OF RETURNS TO SCALE  
Q. WHAT ARE THE IMPORTANT PROPERTIES OF ISOQUANT? / ISOQUANTS

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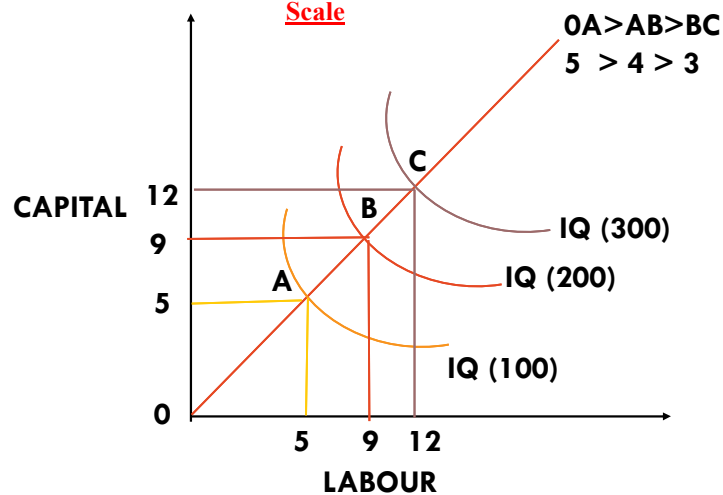
Law of returns to scale is a long run production function theory. In this theory all factors of production are variable no factors are fixed. With the change in the factors of production scale of production will change accordingly.

**Constant Return To Scale**



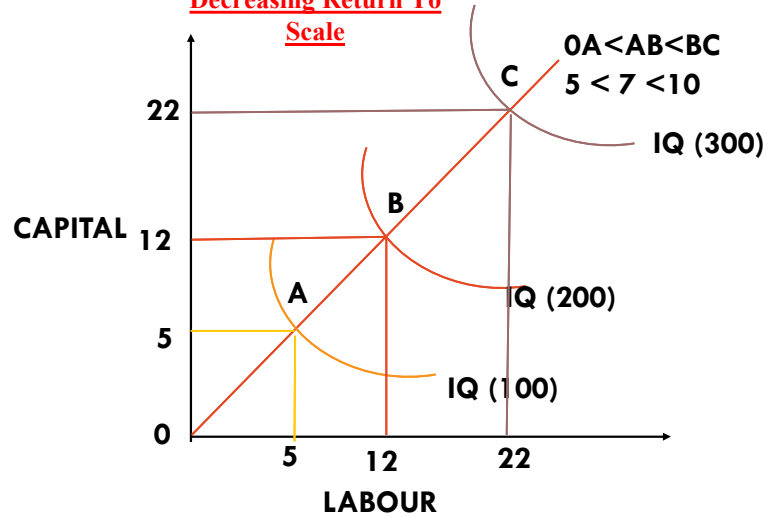
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**Increasing Return To Scale**

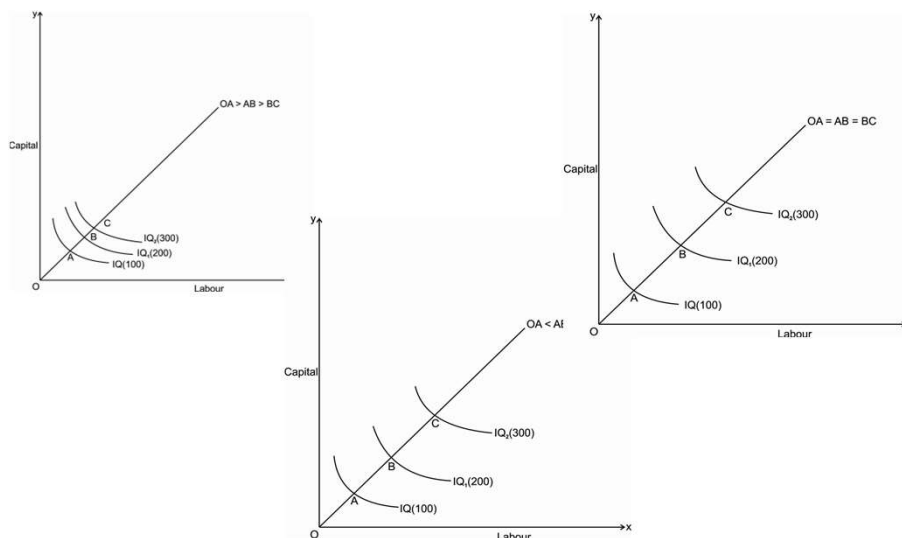


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**Decreasing Return To Scale**



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# ISOQUANTS

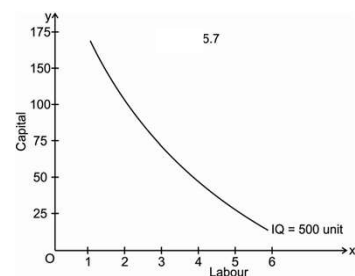
## Q. WHAT ARE THE IMPORTANT PROPERTIES OF ISOQUANT? / ISOQUANTS

### WHAT ARE THE IMPORTANT PROPERTIES OF ISOQUANT? / ISOQUANTS

An iso-quant is also known as iso-production curve, iso-indifference, equal production curve by various economists.

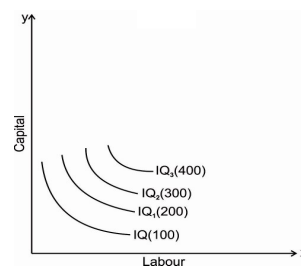
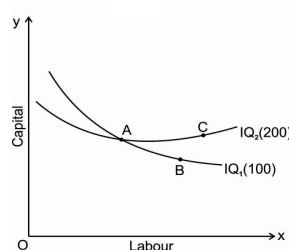
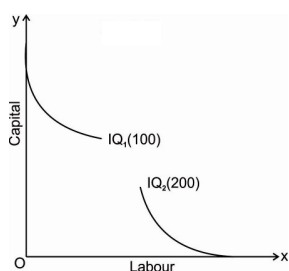
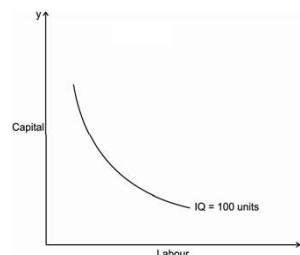
Iso-quant is defined as “a locus of all the combination of two factors of production that yields that yield the same level of output.”

Factor combination	Labour	Capital	Output
A	1	150	500
B	2	100	500
C	3	75	500
D	4	50	500
E	5	25	500



## PROPERTIES OF ISO-QUANTS

1. Iso-quant curve slopes downwards
2. Iso-quant are convex to the origin
3. Iso-quants do not intersect
4. Iso-quant cannot touch either of the axis
5. Higher the iso-quant higher the level of production

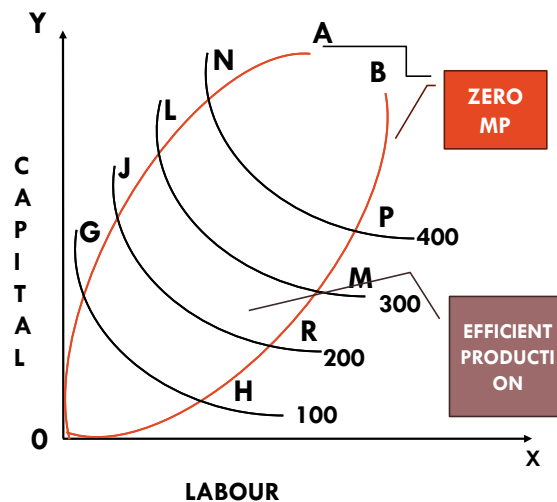


**Q. RIDGE LINES/ WRITE  
SHORT NOTE ON RIDGE  
LINE.**

□ **THE RIDGE LINES ARE THE LOCUS OF  
POINTS OF AN ISO-QUANTS WHERE THE  
MARGINAL PRODUCT OF FACTORS IS ZERO**

## RIDGE LINES

- An isoquant is oval-shaped lies between the ridge lines.
- The **upper ridge line** implies zero MP of capital
- The **lower ridge line** implies zero MP of labour.
- Production techniques are only **efficient** inside the ridge lines.
- The marginal products of factors are negative and the methods of production are inefficient outside the ridge lines.



### Q. PRODUCER'S EQUILIBRIUM/ LEAST COST PRODUCTION TECHNIQUE

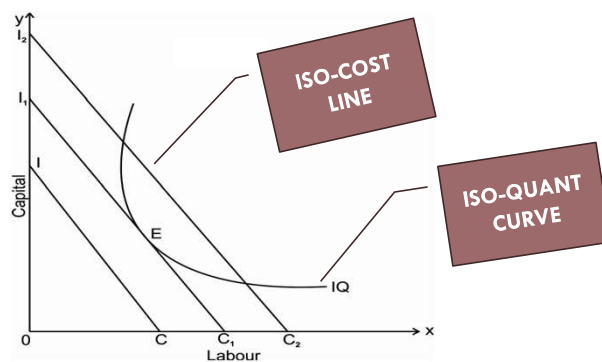
- **Producer's equilibrium** is also known as least cost combination of inputs and optimal combination of inputs.
- The main aim of any firm or a producer is **to maximise his profit** either by **increasing the level of output** or sale or by producing the output at **lower cost**.
- A firm by analyzing its production function can choose the combination of factors inputs which cost him least in his production which is technically efficient.
- There are two ways to determine the least cost combination of factors to produce the given output.
  - a) Finding the Total cost of Factor combinations.
  - b) Geometrical method.

### A) FINDING THE TOTAL COST OF FACTOR COMBINATION:.

Method	Labour (units)	Capital (units)	Labour cost (100 per unit)	Capital cost (200 per unit)	Total cost
A	8	10	$8 \times 100 = 800$	$10 \times 200 = 2000$	2800
B	6	15	$6 \times 100 = 600$	$15 \times 200 = 3000$	3600

- The producer has to choose any to the combination or method where the cost of labour per unit is 100 Rs and cost of capital per is 200 Rs.
- If the **firm choose method A** where he can use 8 units of labour and 10 units of capital where the total cost of production is 2800 Rs.
- If he **chooses method B** where he can 6 units of labour and 15 units of capita to produce the same level of output and where the cost of production is 3600 Rs.
- It is efficient for the firm to choose method A then B because the same level of output can be produced at a leaser cost with method A.

### B) GEOMETRICAL METHOD:

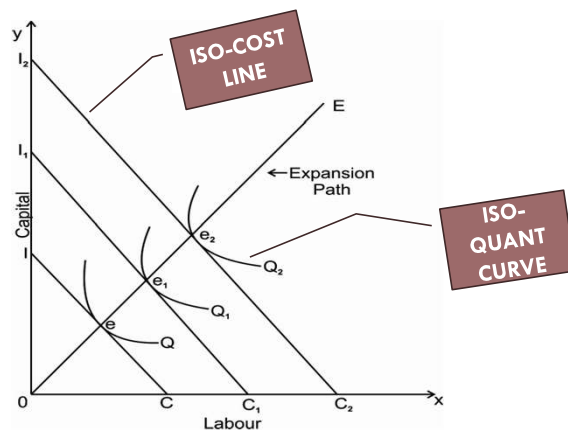


If the firm has to produce a product with the given output by the minimum cost, he will choose optimal minimising cost method. In this method the firm will minimise its cost at the point where the iso quant is tangent to the iso cost line.

**Q. EXPANSION PATH/ WRITE SHORT NOTE ON EXPANSION PATH. / WRITE SHORT NOTE ON EXPANSION PATH.**

- The expansion path in simple word is defined as the locus of the points of tangency between the isoquants and iso-cost lines.
- The expansion paths show how a business firm tries to expand his output in the long run with the given factor prices and the given various factor combinations.

### EXPANSION PATH



- firm can produce Q level quantity of output for the maximum level of output at minimum cost and minimum level of factor inputs.
- All this tangency point E, E1 and E2 we will get a line OE called as expansion path or scale line.
- Expansion path helps the business firm to find the cheapest way to produce each level of output with given factor price.



## ECONOMIES OF SCALE AND DISECONOMIES OF SCALE

**Q. Explain the **INTERNAL** economies and diseconomies of scale**

(An increase in the scale or size of production or output of a firm these are solely enjoyable by firm )

**Q. Explain the **EXTERNAL** economies and diseconomies of scale**

(Economy of scale enjoyed by all firms of industry irrespective of their size of operation)

### Q. EXPLAIN THE **INTERNAL** ECONOMIES AND DISECONOMIES OF SCALE

#### Economies of Scale

- An increase in the scale or size of production or output of a firm
- **Labour economies:** Division of labour –Specialization - efficiency in production
- **Technical economies:** change in technical or methods of production
- **Managerial economies:** Division of managerial activities - business efficiently

#### Diseconomies of Scale

- If the firm is **unable to manage the level of output** diseconomies of scale occurs.
- If firm unable to bring **specialisation of division of labour and management activities**, there **level of output decreases** leads to diseconomies of scale in economy.

Economies of Scale	Diseconomies of Scale
<ul style="list-style-type: none"> <li>• <b>Financial economies:</b> large firms enjoy the benefit of better credit facility from banks than the small-scale firm</li> <li>• <b>Marketing economies:</b> buying raw materials and selling of finished goods. A large firm has a great bargaining power-cheaper cost - buys in bulk.</li> <li>• <b>Transport and storage:</b> large-scale firms have their own transport and storage facility - reduces his transportation and storage cost.</li> </ul>	<ul style="list-style-type: none"> <li>• *****</li> </ul>

**Q. EXPLAIN THE **EXTERNAL** ECONOMIES AND DISECONOMIES OF SCALE**

Economies of Scale	Diseconomies of Scale
<ul style="list-style-type: none"> <li>• <b>Localisation Economies:</b> number of firms are located on one place with an objective of deriving the mutual benefits of training of skilled labour, provision of better transport facility etc.</li> <li>• <b>Disintegration</b> means firms splitting up its operation and the process of manufacture and handing over the specialised agency and institution</li> </ul>	<ul style="list-style-type: none"> <li>• To increase in the market price of factors of production</li> <li>• There is an increasing in the total cost of production beyond the control of a company and it reduces the level of output.</li> <li>• The external diseconomies are not suffered by a single firm but by whole firms operating in a given industry</li> </ul>

### Economies of Scale

- **Information economies:**  
Networking with each other enables firms to make marketing and technical information easily
- **By-product economies:**  
This will help all the firm in the industry to reduce the waste in the economy and make efficient use of resources.

### Diseconomies of Scale

- For example, Suppose a firm take huge amount of **loan** from a financial institution or banks to expand his level of output.
- Such **loan increases the burden** on firm to prove their credit leads to financial diseconomies of scale.



SWAPNALI JANGLE