

Examrace

Production function

Doorsteptutor material for UGC is prepared by world's top subject experts: Get [detailed illustrated notes covering entire syllabus](#): point-by-point for high retention.

- Production function is purely a technological relationship which expresses the relation between output of a good and the different combination of inputs used in its production.
- It indicates the maximum amt of output that can be produced with the help of each possible combination of inputs.
- The production function written mathematically as
- $Q = F(L, N, K)$
- Q= rate of output
- Land, labour, capital

Based on Two Main Assumptions

1. Technology is invariant
2. Firms utilize their inputs as maximum level of their efficiency

Production Function

1. Short-run production function (Returns to a factor) or law of variable proportion
2. long-run production function (Returns to scale)

Short-Run Production Function

- It is a period where output can be changed by changing only variable factors of production. (fixed factors remain fixed)
- Key terms:
- Total product: total quantity of goods produced by a firm during a period of time
- Marginal product
- Average product: per unit output

Law of Variable Proportion

(Stage of increasing returns Stage of decreasing returns Stage of negative returns)

- Plant, machinery, floor space etc. fixed
- Amt of labour services only vary

Long-Run Production Function

- A situation where all inputs are subject to variation is a case of long-run function.
- Behavior of output in response to change in the scale
- Isoquant:
- Isoquant is a Curve representing the various combinations of two inputs that produce the same amount of output.
- Property:
- Downward sloping
- Higher isoquant represent larger output
- No two isoquant intersect or touch each other
- Convex to the origin
- Higher isoquant vs. lower isoquant

Refer

Find this video at: <https://www.youtube.com/watch?v=DFC6jHkSHAO>

Youtube Video Tutorial on Production Function

Developed by: [Mindsprite Solutions](#)