

Unit-III

Q1. Define production function. Discuss its nature/ characteristics, assumptions and managerial uses of production function.

Production function: Production function is a tool used to explain the input-output relationship.

It describes the technological relationship b/w inputs and output in physical terms.

Mathematically, a production function is represented as

$$Q = f(L, K, R, E, \dots)$$

where, Q - Quantity of the output product produced

L - Labour units

C - Land

Q LIKE Rf K - Capital employed

E - Efficiency

R - Raw Material

f - function of L, C, K, R, E

In above production function, the input considered as Land, labour, Capital employed, Raw mater and Efficiency parameters.

In the first short-run few input such as plant size and equipment remains constant so, to increase the output in short-run we have to increase only variable input.

On other hand, in the long-run all the input are variable.

Based on variability of input the production function are categorized into two production function

a) one variable

b) production function with two variable

Nature / Feature of production function

The nature of production function can be understood from the following features/characteristics

i) product function is related to flow of inputs, resulting the output of a commodity in a given time period.

ii) product function expresses technical relationship b/w inputs and output

iii) Product function will grow by the factors like technology, inputs used and the time period.

Assumptions of production function

i) Technology used in production function is constant when it changes the input and output also varies.

ii) perfect divisibility of both input & output

iii) limited substitution one and other factors

iv) production function is considered for a particular period of time

Managerial Uses of production function

- i) production function is helpful in to obtain the maximum output
- ii) All factors of production are properly allocated to get maximum return (output) in long-run
- iii) It helps in proper allocation of production factors
- iv) Depending on production function, the firm can easily make choices among the various attributes

Q2) Explain the Concept returns to scale.

(OR)

laws of Increasing, constant and decreasing returns to scale, Represent them diagrammatically.

Q1: Law of Returns to Scale.

The law of returns to scale refers to the relationship b/w inputs and output in the long-run when all the input (both fixed and variable) are varied in same proportion. Economists use "law of returns to scale" to describe the variations in inputs in the long-run.

Types of Returns to Scale

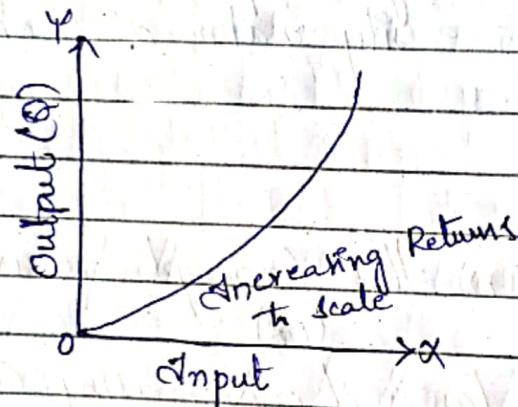
- 1) Increasing Returns to Scale
- 2) Constant Returns to Scale
- 3) Decreasing Returns to Scale.

1) Increasing Returns to Scale:

An Increasing returns to scale occurs when a percentage increase in inputs leads to greater increase in output.

For example if a 5% increase in inputs result in 10% increase in the output, an organisation is said to attain increased returns.

The below plotation shows the behaviour of increasing returns to scale

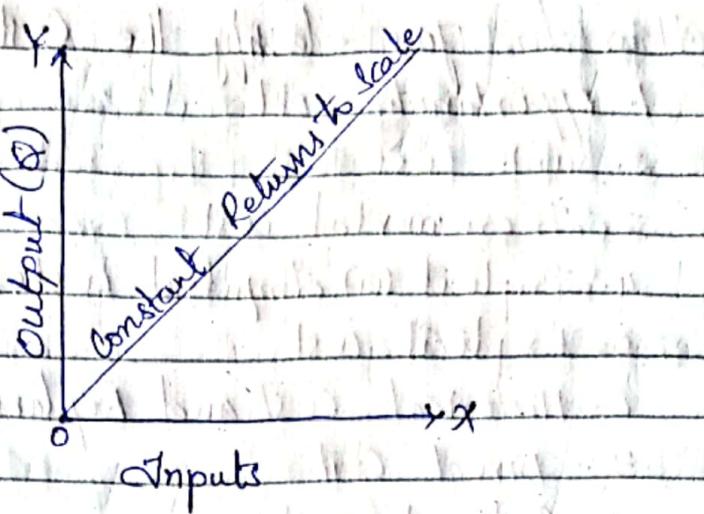


1) Constant Returns to scale

Constant returns to scale occurs when the percentage increase in output is equal to the percentage increase in input.

According to Marshall, the law of constant returns operates when the advantages and disadvantages of large scale production are exactly balance over a range of output.

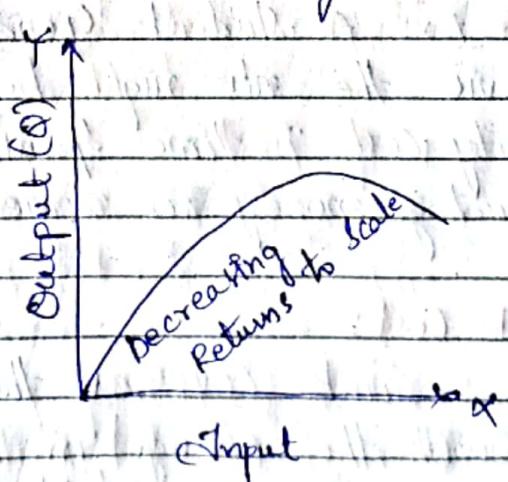
For example, if the input are increased at 10% and result the output gets equal as 10% then the organisation is said Constant Returns to Scale.



(iii) Decreasing Returns to Scale.

An Decreasing returns to scale occurs when a percentage increase in inputs leads to decrease in output.

For example, if a 10% increase in inputs leads to decrease in output by 5%, an organisation is said to attain decreasing returns to scale.



Q3) How do you classify the costs? Explain.

Sol:

1. opportunity cost
 2. Sunk cost
 3. Incremental cost
 4. Implicit (or) Imputed costs
 5. Explicit cost
 6. Historical cost and Replacement cost
 7. Direct cost
 8. Indirect cost
 9. Fixed cost
 10. Variable cost
 11. Total cost
 12. Average cost
 13. Controllable cost
 14. non-controllable cost
- Refers to money value of total inputs required for the production of goods & services.
- Assuming that production of each unit of output.

1) Opportunity cost:

The loss of other alternatives when one alternative is chosen

Ex: A student spend three hours and ₹20 at movie the night before the exam. The opportunity cost is time spent in studies instead of spending money on movie.

2) Sunk cost:

Sunk costs are those costs which do not change with the change in nature. It is also known as "non-avoidable (escapable) costs"

Ex: past cost (paying rent)

3) Incremental cost: Incremental cost are those costs which change with change in nature (or) level of business activity. It is also known as "Avoidable (escapable) costs".

4) Implicit (or) Imputed costs

An Implicit cost is any cost that has already occurred but not necessarily to reported (or) record. (or) Implicit cost are those expenses that are not actually paid by the firm.

5) Explicit cost

Explicit cost are those expenses that are actually paid by firm. It is also known as "paid-out costs".

6) Historical and Replacement cost

Historical cost (original cost) refers to original price paid by the management to purchase the commodity in past.

Replacement cost is refer to change in cost increment (or) decrement.

Ex: In 1990 the car cost is £ 20,000, but in 2020 the car cost is £ 2,00,000
£ 20,000 Historical cost
£ 2,00,000 Replacement cost.

7) Direct cost: Direct costs are those which have direct relationship with operation like manufacturing a product, organizing a commodity etc.

It is also called as "Traceable cost".

8) Indirect cost:

Indirect cost are those which is indirect relationship with operation like manufacturing a product, organizing a commodity etc. It is also known as "non-traceable cost".

8(4) What is perfect competition? what are its features?

Perfect Competition:

Pure/perfect competition is the simplest model of a market structure in which all firms in a market are price takers and there are no restrictions for entry and exit from market.

This kind of market structure does not exist in the market.

Features of Perfect Competition:

The following are the characteristic of a perfectly competitive market,

(i) Homogeneity of product

* (ii) No Entry and Exit Barriers

(iii) Have perfect knowledge.

(iv) Large no. of similar buyers & sellers

(v) Have perfect knowledge. Absence of Govt. Intervention

* (vi) No publicity and propaganda are required

* (vii) No transport cost

* (viii) No collaboration (or) Control

(i) Homogeneity of product:

Under perfect competition, all the firms produce homogeneous products with same cost.

Ex: You go to a vegetable market and inquire about the price of potato, you find 5/- per kg. and went off from there and move towards other market to inquire about same thing and you find the same price. This is known as Homogeneity of product.

(ii) No Entry and Exit Barrier:

There are no restriction for entry and exit from the firm.

(iii) Have perfect knowledge:

All the buyers and sellers under perfect competition have perfect knowledge about the market conditions.

Both the buyers & sellers are aware of the product availability, price, etc.

(iv) Large no. of similar Buyers & Sellers

Under perfect competition, there are large no. of buyers & sellers. The no. of buyers and sellers are so large that the share of each seller in the total supply and share of ^{each} buyer of each firm in total demand are very small. None of them can't affect the total supply and total demand.

(v) Absence of Government Intervention:

Under perfect competition, the intervention of government is absence (not their). So the buyers & sellers are not having restriction by the Govt.

(VI) No Transport cost:

Under perfect competition, there is no transport cost, due to this the price of product/commodity are same at all the places.

(VII) No Collaboration (or) Control

There is no collaboration b/w buyer and sellers under perfect competition. Both the buyers and sellers having independent decision.

(VIII) No publicity and propaganda are required.

All the buyers and sellers having perfect knowledge about the product availability, so there is no publicity and propaganda are required under perfect competition.

Q5) Define monopolistic competition. What are its features/characteristics/Natures?

Monopolistic Competition:

Monopolistic competition is a type of imperfect competition in which the price of each commodity/product will change from place to place.

Example: Restaurants, shopping mall, clothing, shoes, etc.,...

Features of Monopolistic Competition:

The following characteristic of monopolistic competition.

- * (i) Monopolistic of product
- * (ii) No Entry and Exit Barrier with substitution
 - (iii) Imperfect knowledge.
 - (iv) presence of Govt. Intervention
 - (v) Apply Transport cost
 - (vi) Requirement of publicity and propaganda.
 - (vii) Requirement of collaboration
- * (viii) large no. of similar buyers & sellers -

Both buyer and seller can affect the total Supply and total demand individually.

Q6) Define pricing. State the objective of pricing. (or)
What are the objectives of pricing? (or) Describe the objectives of?

Sol: Pricing:

Pricing refers to the process under which a business sets the price at which it will sell its products and services, which is also a part of business.

- 1) Maximize long-run profit
- 2) Maximize short-run profit
- 3) Exploit (Increment in) Competitive Position
- 4) Survival in competitive market
- 5) Avoid Govt. investigation
- 6) Increase monetary sales
- 7) Increase Market Share
- 8) Company Growth
- 9) Maintain in competitive position

Usually
define the
definition.