2. Total Outlay Method

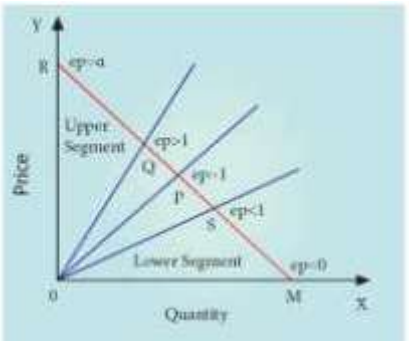
This examines the change in total outlay of the consumer or total revenue of the firm.

Total Revenue = (Price x Quantity Sold) TR = (P x Q)

Price	Quantity Demanded	Total Outlay	Elasticity
150	3	450	e > 1
125	4	500	e = 1
100	5	500	e <1
75	6	450	

3. Point or Geometrical Elasticity

The point elasticity of a linear demand curve is shown by the ratio of the segments of the line to the right and to the left of the particular point.



Where '**ep**' stands for point elasticity, 'L' stands for the lower segment and 'U' for the upper segment.

Ep = L / U

$$\textit{Point Elasticity} = \frac{\text{Lower segment of the demand curve below the given point}}{\textit{Upper segment of t e demand curve above the given point}}$$

Chapter 3

II. Very Short Answer Questions:

21. Classify the factors of production.

Land, Labour - *'primary factors of production'*.

Capital and Organisation - *'secondary factors of production'.*

22. Define Labour. Labour refers to any work undertaken for securing an income or reward.

According to Marshall, labour represents services provided by the factor labour, which helps in yielding an income to the owner of the labour-power.

23. State the production function.

According to George J. Stigler, "Production function is the relationship between inputs of productive services per unit of time and outputs of product per unit of time."

P r o d u c t i o n function may be expressed as: **Q = f (N, L, K, T)**

Where, Q = Quantity of output, N = Land; L = Labour; K = Capital; and T = Technology.

24. Define Marginal Product of a factor.

It is the addition or the increment made to the total product when one more unit of the variable input is employed.

25. What is Iso-cost line?

The iso-cost line illustrates all the possible combinations of two factors that can be used at given costs and for a given producer's budget.

26. What are conditions for producer's equilibrium?

- ❖ The iso-cost line must be tangent to iso-quant curve.
- ❖ At point of tangency, the iso-quant curve must be convex to the origin.

27. What are the reasons for upward sloping supply curve?

- ➢ As the price of the commodity increases, the quantum supplied of the commodity also increases.
- ➢ Thus the supply curve has a positive slope (upward slop) from left to right.

III. Short Answer Questions:

28. What are the characteristics of land?

1) Land is a primary factor of production.
2) Land is a passive factor of production.
3) Land is the free gift of Nature.
4) Land has no cost of production.
5) Land is fixed in supply. It is inelastic in supply.
6) Land is permanent.

29. What are the factors governing elasticity of supply?

- ✶ Nature of the commodity
- ✶ Cost of production
- ✶ Technical condition
- ✶ Time factor

30. What are the functions of Entrepreneur?

- ➢ **Initiation:** An organizer is the initiator of the business,
- ➢ **Innovation:** A successful entrepreneur is always an innovator.
- ➢ **Coordination:** An organizer applies a particular combination of the factors of production.
- ➢ **Control, Direction&Supervision:** An organiser prevents the organisation from achieving its goal.
- ➢ **Risk-taking and Uncertainty-bearing:**

31. State and explain the elasticity of supply.

Elasticity of supply may be defined as the degree of responsiveness of change in supply to change in price on the part of sellers.

Elasticity of supply	=	proportionate change in supply / proportionate change in price

It is mathematically expressed as: $e_{S=}(\Delta Qs/Qs) / (\Delta P/P)$; $es = \Delta Qs / \Delta P \times P/Qs$

Where Qs represents the supply, P represents price, Δ denotes a change.

32. Bring out the Relationship among Total, Average and Marginal Products.

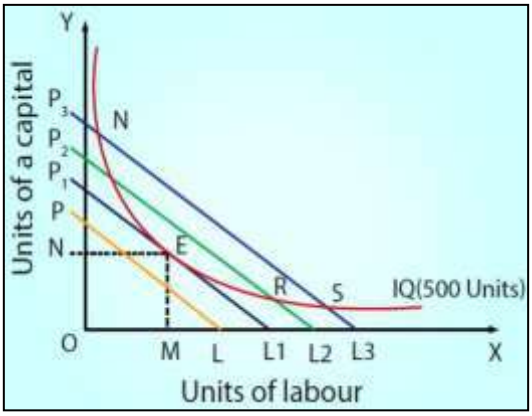
Stages	TP	MP	AP
Stage I	increases at an increasing rate	Beginning it increases, reaches a maximum and starts to decrease	increases, then attains maximum
Stage II	increase at adiminishing rate and reaches maximum	diminish and becomes equal to zero	equal to MP and then begins to diminish
Stage III	Diminishes	becomes negative	Continues to diminish but always greater than zero

33. Illustrate the concept of producer's Eqilibrium

The producer manufactures a given amount of output with 'least cost combination of factors', with his given budget.

Conditions for Producer Equilibrium:

- ➔ The iso-cost line must be tangent to iso-quant curve.
- ➔ At point of tangency, the iso-quant curve must be convex to the origin or $MRTS_{LK}$ must be declining.
- ➔ At point E, the firm employs OM units of labour and ON units of capital.
- ➔ The other points such as H, K, R and S lie on higher iso cost lines indicating that a larger outlay is required, which exceeds the financial resources of the firm.



34. State the Cobb-Douglas Production Function.

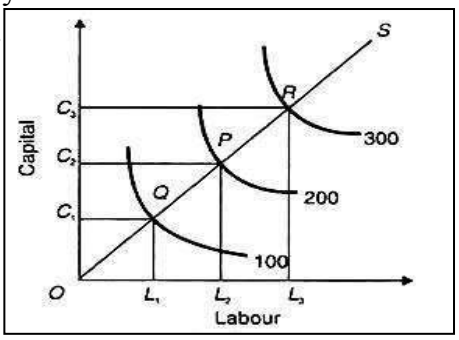
Meaning

According Cobb-Douglas, " Linear homogeneous production function implies that the factors of production can be substituted for one another up to a certain extent only."

The Cobb-Douglas production function can be expressed as follows.

$$Q = AL^{\alpha} K^{ß}$$

Where, Q = output; A = positive constant; K = capital; L = Labor
α and β are positive fractions showing, the elasticity coefficients of outputs for the inputs labor and capital, respectively.



- ß = (1- α) since α + ß = 1. denoting constant returns to scale.
- Factor intensity can be measured by the ratio ß / α.

IV. Long Answer Questions:

35. Examine the Law of Variable Proportions with the help of a diagram.

Definition

According to G.Stigler, "As equal increments of one input are added, the inputs of other productive services being held constant, beyond a certain point, the resulting increments of product will decrease, i.e., the marginal product will diminish".

Meaning

The law of variable proportions states that as the quantity of one factor is increased, keeping the other factors fixed, the marginal product of that factor will eventually decline.

Assumptions

1. Only one factor is variable while others are held constant.
2. All units of the variable factor are homogeneous.
3. The product is measured in physical units.

Total Product (TP)

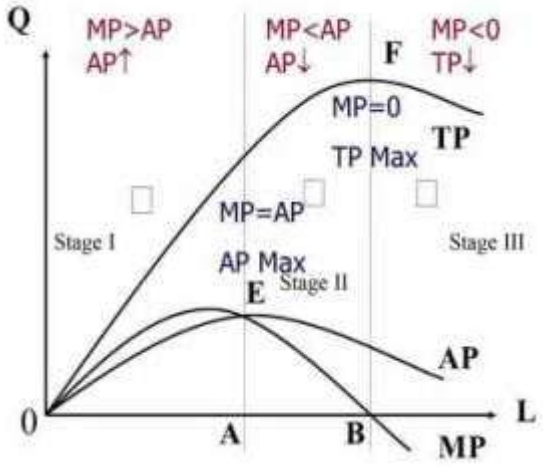
It refers to the total amount of commodity produced by the combination of all inputs. **TP = ΣMP**

Average Product (AP)

It is the result of the total product divided by the total units of the input employed. **AP = TP/N**

Marginal Product (MP)

It is the addition or the increment made to the total product. **MP=ΔTP/ΔN (or) MP = TP (n) – TP (n-1)**



In diagram, the number of workers is measured on X axis while TP, AP MP are denoted on Y axis. The diagram explains the three stages of production as given in the below table.

36. List out the properties of iso-quants with the help of diagrams.

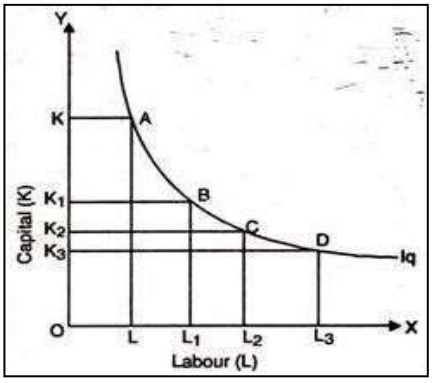
Meaning

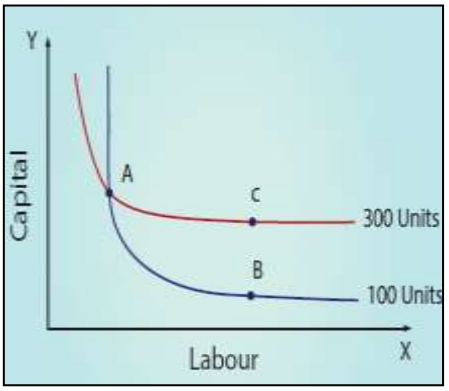
An iso-quant curve can be defined as the locus of points representing various combinations of two inputs capital and labour yielding the same output.

The iso-quant is also called as the "Equal Product Curve" or the "Product Indifference Curve"

Properties of Iso-quant Curve

1. The iso-quant curve has negative slope.
2. Convex to the origin.
3. Non inter-section of Iso-quant curves.
4. An upper iso-quant curve represents a higher level of output.
5. Iso- quant curve does not touch either X axis Y axis.





37. Elucidate the Laws of Returns to Scale. Illustrate.

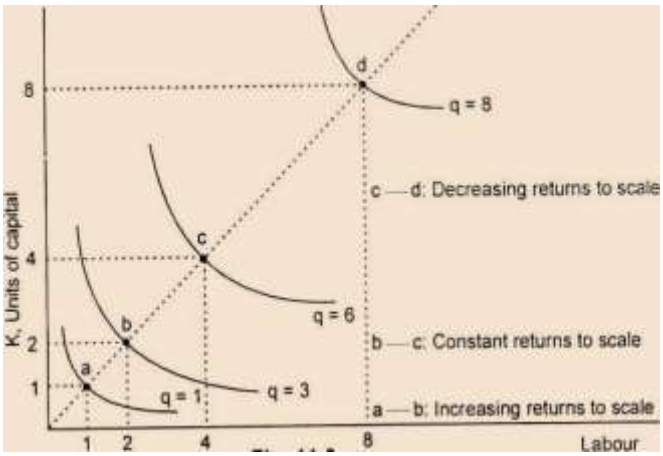
Meaning

The laws of returns to scale explain the relationship between output and the scale of inputs in the long-run when all the inputs are increased in the same proportion.

Assumption

1. All the factors of production are variable but organization is fixed.
2. There is no change in technology.
3. There is perfect competition in the market.
4. Outputs or returns are measured in physical quantities.

Stages	Input	Output	Returns to Scale
a to b	100% ↑	200% ↑	Increasing
b to c	100% ↑	100% ↑	Constant
c to d	100% ↑	33.33% ↑	Decreasing



Three Phases of Returns to Scale

- Increasing Returns to Scale:
- Constant Returns to Scale:
- Diminishing Returns to Scale:

Explanation

1. In the the movement from point **a** to point **b** represents increasing returns to scale.
2. The law of constant returns to scale is implied by the movement from the point ***b*** to point ***c***.
3. Decreasing returns to scale are denoted by the movement from the point **c** to point **d.**

38. Explain the internal and external economies of scale.

Basic Difference	Internal Economies	External Economies
1. Technical Economies:	There is a possibility to introduce up- to-date technologies	Increased transport facilities
2. Financial Economies:	Big firms can float shares in the market for capital expansion,	Banking facilities
3. Managerial Economies:	Large scale production facilitates specialisation and delegation.	Development of townships
4. Labour Economies:	Large scale production implies greater and minute division of labour.	Development of information and communication
5. Marketing Economies:	The producers can both buy raw-materials in bulk at cheaper cost and can take the products to distant markets.	Expansion of the Plant size