

Ques. I. How are equilibrium price and output determined under perfect competition? Explain.

Under perfect competition, equilibrium price and output are determined by the intersection of the market demand and supply curves, meaning the price at which the quantity demanded by consumers exactly equals the quantity supplied by producers, creating a state of balance where there is neither excess supply nor demand; essentially, the market "clears" at this point.

⇒ Key Points about equilibrium under Perfect competition:

1. Market forces:

The equilibrium price is solely determined by the interaction of market demand and supply, with no single firm having enough influence to manipulate the price.

2. No Price Control:

Individual firms in a perfectly competitive market are price-takers, meaning they must accept the market price set by the equilibrium point.

3. Normal Profit:

In the long run, under perfect competition, firms will tend to earn only normal profits at the equilibrium point, as any excess profit will attract

new firms to the market, driving price down.

⇒ How to find Equilibrium

1. Identify demand and supply curves

Plot the market demand curve (downward sloping) and the market supply curve (upward sloping) on a graph.

2. Intersection Point:

The point where the demand and supply curves intersect represents the equilibrium price and quantity.

⇒ Four aspects of Perfect competition:

1. Homogeneous Products:

In a perfectly competitive market, all goods produced by different firms are identical, making price the only factor influencing consumer choice.

2. Free Entry and Exit:

Firms can easily enter or exit the market, which helps to maintain equilibrium in the long run.

seen.

3. Perfect Competition:

Both consumers and producer have complete knowledge about market prices and product characteristics.

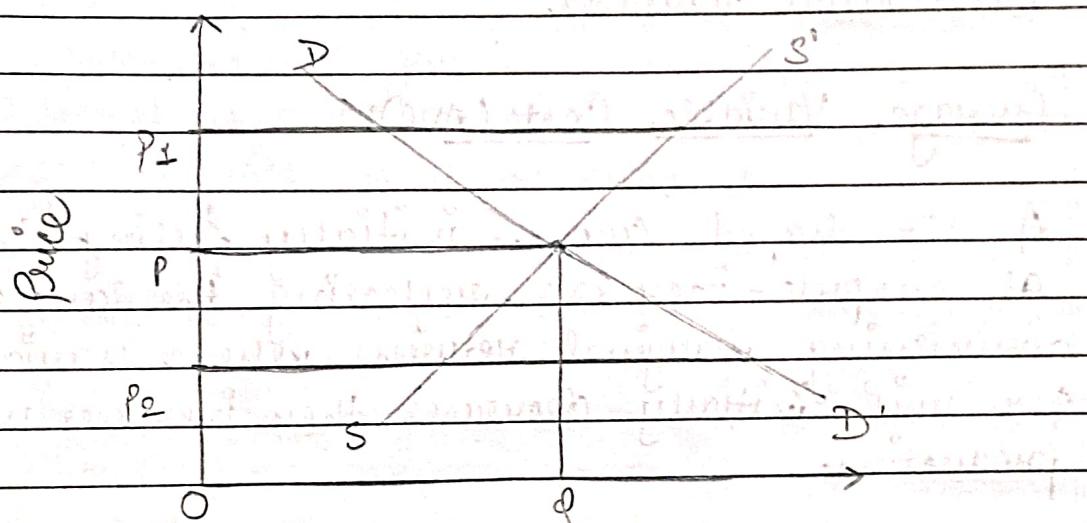


fig: Price and Output determination under perfect competition.

Ques 2. Explain diagrammatically the concepts of Average Fixed Cost (AFC), Average Variable Cost (AVC), Average Total Cost (ATC), and Marginal Cost (MC).

Ans: Average Fixed Cost (AFC):

A downward sloping curve that rapidly approaches the x-axis, representing how fixed costs are spread

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out over more units of production, always declining as output increases.

Represents the fixed cost per unit of output, calculated by dividing total fixed cost by the quantity produced since, fixed costs remain constant regardless of output, the AFC curve continuously declines as production increases.

Average Variable Cost (AVC):

A U-shaped curve, initially falling then rising as output increases, reflecting the law of diminishing marginal returns where variable costs per unit initially decrease then increases with more production.

Represents the variable cost per unit of output, calculated by dividing total variable cost by the quantity produced. Due to the law of diminishing marginal returns, the AVC curve typically shows a U-shape, initially falling as production increases then and then rising.

Average Total Cost (ATC):

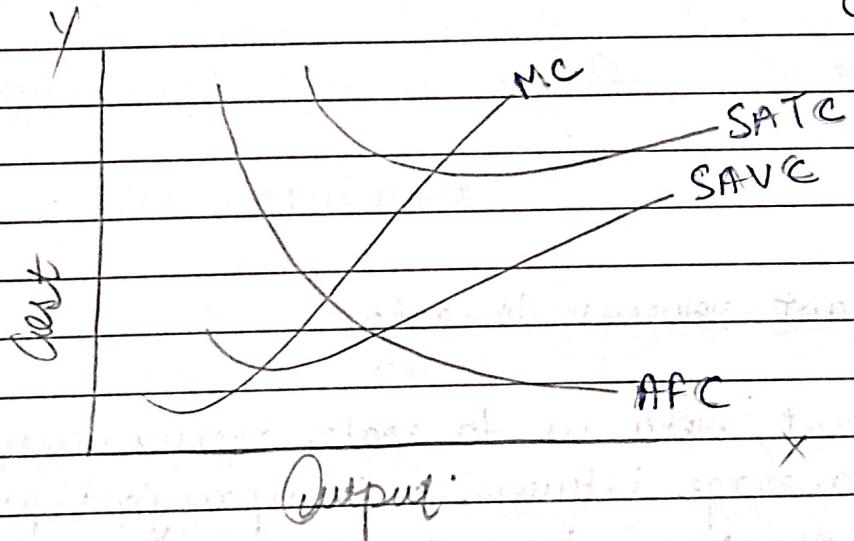
A U-shaped curve that lies above the AVC curve, also initially falling then rising, representing the combined average of fixed and variable costs per unit.

Represents the total cost per unit of output, calculated by dividing total cost (fixed + variable) by quantity produced. As a combination of AFC and AVC, the ATC curve also exhibits a U-shape.

Marginal Cost (MC):

A curve that intersects both AVC and ATC at their minimum points, generally U-shaped, showing the additional cost of producing one more unit of output at each level of production.

Represents the additional cost of producing one more unit of output. The MC curve usually intersects the AVC and ATC curves at their minimum points, indicating the point where producing an additional unit adds the least cost to the average.

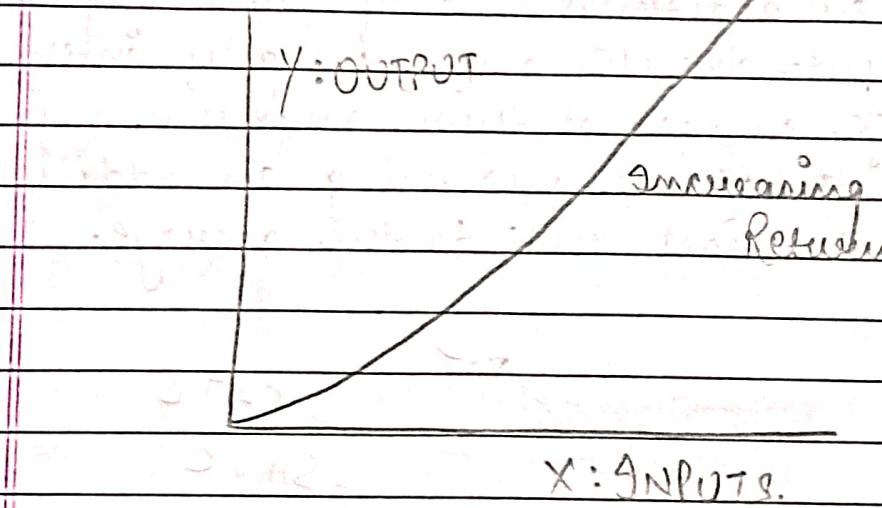


Ques. 3: Write short notes on the following:

(i) Increasing returns to scale.

An increasing returns to scale occurs when the output increases by a larger proportion than the increase in inputs during the production process.

For eg: if input is increased by 3 times, but output increased by 3.75 times, then the firm or economy has experienced an increasing returns to scale.



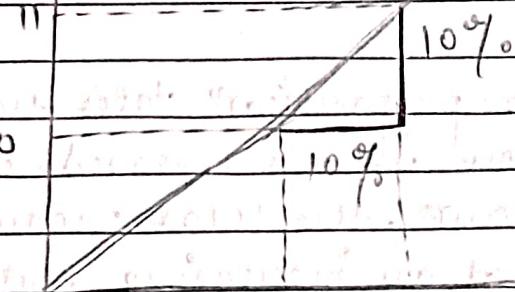
(ii) Constant returns to scale.

Constant returns to scale occur when the long-run average between a company's inputs and output are proportional to each other.

In other words, as the cost of total production increases, the value of their goods goes up by the same amount.

percentage of increase.

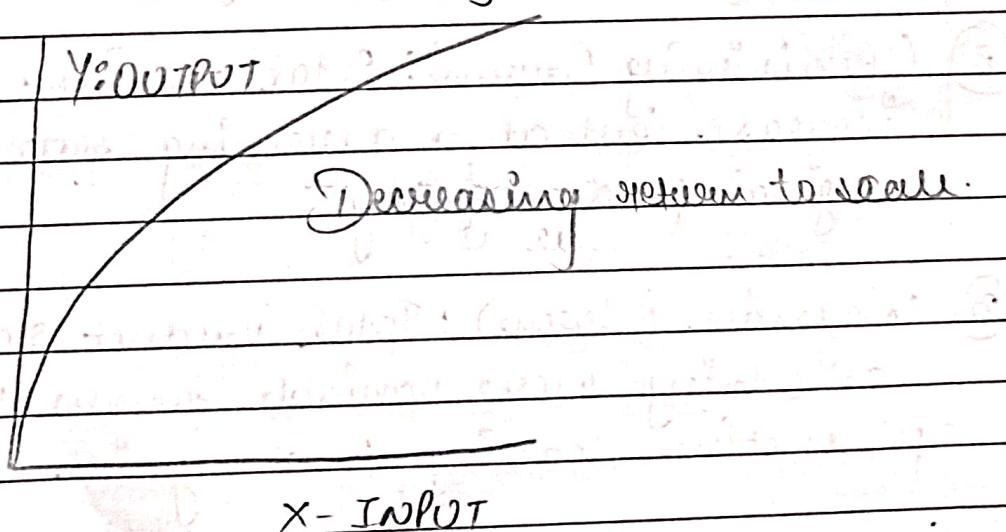
Constant returns to scale-



(iii) Decreasing returns to scale.

A decreasing returns to scale occurs when the proportionate of output is less than the desired increased input during the production process.

For e.g. if input is increased by 3 times, but output is reduced 2 times, the firm or economy has experienced decreasing returns to scale.



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Ques 4: Explain the law of variable proportions. In which state a rational producer will cease to produce.

The "Law of Variable proportion" states that when one factor of production is increased while keeping other factors constant, the total product will initially increase at an increasing rate, then at a decreasing rate, and finally, will start to decline; meaning a rational producer will cease to produce in the second stage, where total product increases at a decreasing rate as this is the point of optimal output with diminishing marginal returns.

⇒ Three stages:

① (Increasing Returns): Total product increases at an increasing rate as the variable factor is added, leading to the rising marginal product.

② (Diminishing Returns): Total product continues to increase but at a decreasing rate, with the marginal product failing.

③ (Negative Returns): Total product starts to decline as adding more variable factors becomes counterproductive, leading to a negative marginal product.

Rational producer chooses the second stage because in the second stage, while the output is still increasing, the added cost per unit of output is minimized, maximizing efficiency.

Ques 5. What are different types of market structure? Discuss the various features of perfect competition.

There are different types of market structure.

(1) Perfect Competition:-

- There are no restrictions on entry and exit for firms.
- There are no transport cost.

(2) Monopolistic Competition:-

- There is freedom of entry and exit.
- Firms can differentiate their products.

(3) Oligopoly:-

- A market structure where a small number of big firms offer differentiated or identical products.

(4) Monopoly:-

A market structure where a single firm rules the entire market, setting the prices and selecting what it offers.

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Key Features of Perfect Competition

- ① Large no. of Buyers and Sellers
- ② Free entry & exit
- ③ Perfect Information
- ④ Price taker behaviour.

Ques. 6: Explain the following:

1. Concept of cost:

The concept of cost is the value of money used to produce something or deliver a service.

It can also refer to the loss or penalty involved in achieving a goal.

Type of costs:

- (a) fixed costs
- (b) variable costs
- (c) Direct costs
- (d) Indirect costs
- (e) Marginal costs

Cost concepts:

- **Cost price:** The original price of an item.
- **full costing:** An accounting method used to determine the complete end-to-end cost of producing products or services.
- **Cost theory:** The study of the formation of costs, including energy and monetary units.

2. Production Function:

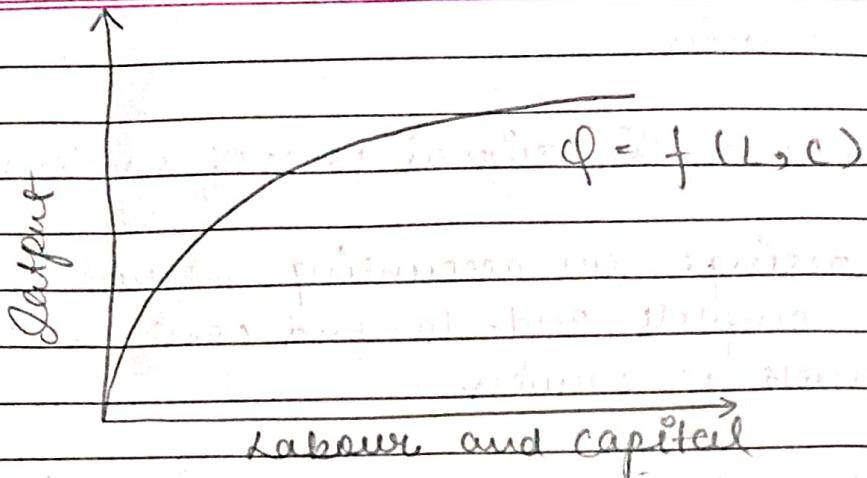
A production function is a mathematical model that shows how inputs are used to produce output. It's an important tool in economics analysis.

Types of Production function.

1. Linear Homogeneous production function.
2. CES Production function
3. Long run production function.

Production function applications:

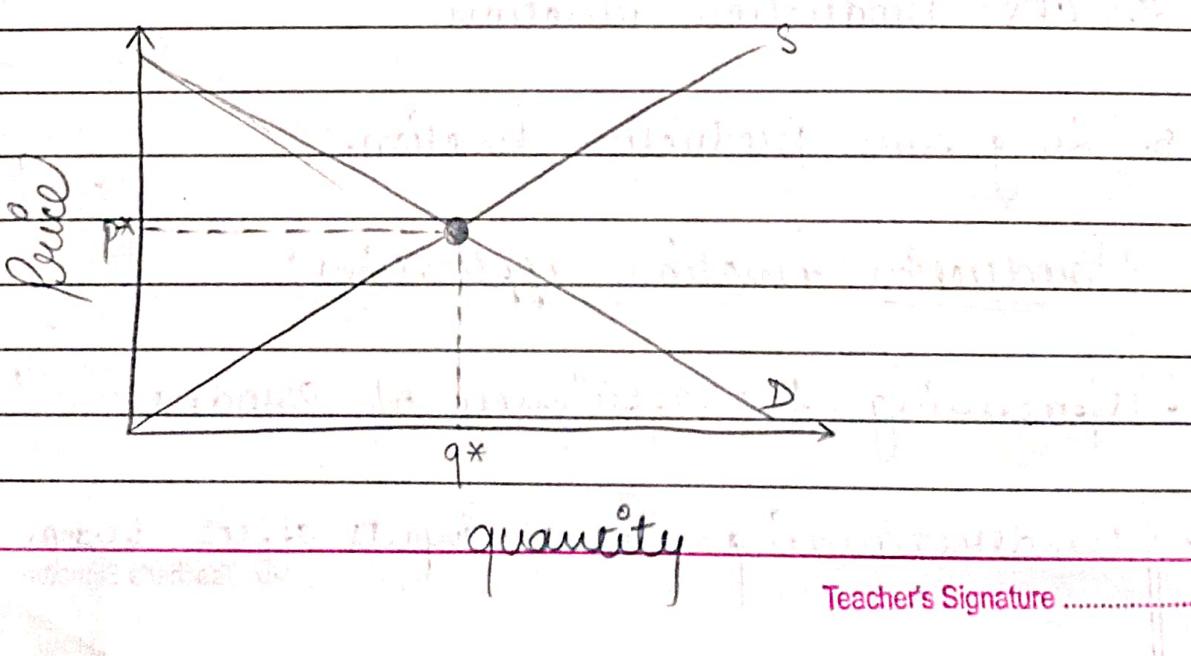
- Measuring the efficiency of production.
- Understanding how inputs affect output.



3. Equilibrium Price:

Equilibrium price is the price at which the quantity of a product or service supplied matches the quantity demanded. It's also known as the market-clearing price.

Ex:- If a manufacturer increases price due to higher raw material costs, fewer consumers may buy the product. This can lead to fewer units being available, which can result in an equilibrium price.



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