

## Theory of Cost

↓  
Concerned with financial aspect of production.

Cost Analysis- Study of behaviour of cost in relation to production Criteria

- Size of output
- Scale of operation
- Prices of factors of prod.

## Cost Concepts:

1) Accounting cost & Economic Cost

→ Accounting cost -

↳ Involves cash payment by the business.  
→ Explicit cost

- Payment made for various fact. of production  
Wages Rent Int on money borrowed

→ Implicit cost -

Cost of using self-owned factors.

Q Pinku

Job offer - 212 lac p.a. - Implicit cost

CA Grolgoppe Wala

Total Rev. 30,00,000 ✓

↳ Acc. cost - 10,00,000

Accounting prof. 20,00,000

↳ Implicit cost 12,00,000 | 20,00,000 | 25,00,000

✓ Economic profit - 8,00,000 ✓ 0 (50,00,000)

Economic loss

→ Not actual cash exp. but represent the opportunity cost of using resources of Entrepreneur in the business.

of using resource of Entrepreneur in the business.

→ These costs are not accounted for.

- Economic Cost = Explicit cost + Implicit cost

$$\begin{aligned} \text{Total Rev.} &= 20,00,000 / \\ (-) \text{ Economic cost} &= (\text{Implicit} + \text{Explicit}) \end{aligned}$$

$$= \text{Economic Profit}$$

Economic cost includes :- a) Normal return on Money cap invested by entrepreneur in business.

b) Wages/Salary not paid to Entrepreneur.

c) Monetary rewards for all factors owned by entrepreneur.

Implicit cost

1) Normal profit

$$\begin{aligned} \text{Total Rev.} &= 50 \text{ Lac} \\ (-) \text{ Acc. cost} &= 30 \text{ Lac} \end{aligned}$$

$$\checkmark \text{ Acc. profit} = 20 \text{ Lac}$$

$$\checkmark (-) \text{ Implicit cost} = 20 \text{ Lac}$$

Economic cost = 50 Lac

Zero Economic profit → Normal profit

$$\downarrow$$

$$\text{Total Rev} - \text{Economic Cost} = 0$$

$$\text{Acc profit} = \text{Implicit cost}$$

2) Super Normal profit

$$\begin{aligned} \text{Revenue} &= 50 \text{ Lac} \\ (-) \text{ Acc. cost} &= 30 \text{ Lac} \end{aligned}$$

$$\begin{aligned} \text{Acc. profit} &= 20 \text{ Lac} \\ (-) \text{ Impl. cost} &= 10 \text{ Lac} \end{aligned}$$

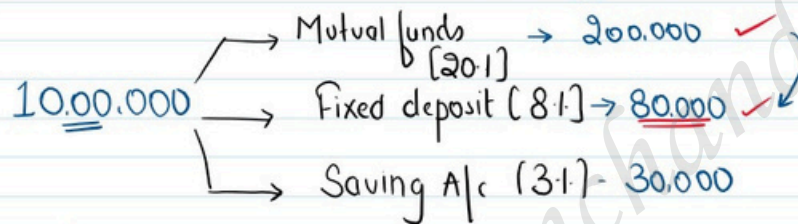
$$\begin{aligned} \text{Positive Economic} &= 10 \text{ Lac} \end{aligned}$$

Positive Economic profit = 10 Lac

$$\text{Super Normal Profit} = TR > \text{Eco. cost}$$

## 2) Outlay cost & Opportunity cost

- **Outlay cost** - Accounting cost  
 Actual exp - Explicit cost  
 Ex- wages, Rent
- **Opportunity cost** - Implicit cost is a type of opp. cost



- Cost of next best alternative
- Cost of missed opp.

## 3) Direct and Indirect cost

1. **Direct & Traceable cost**  
 Readily identified & are traceable to a particular product, operation or plant

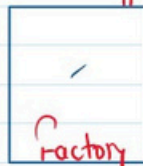
2. **Indirect cost**  
 Not easily identifiable in relation to product, department, etc.

→ However, they are charged to diff. products in Standard Acc. practice.

## 4) Incremental & Sunk cost

- **Incremental cost** - Add. cost incurred by the firm as a result of business decisions!

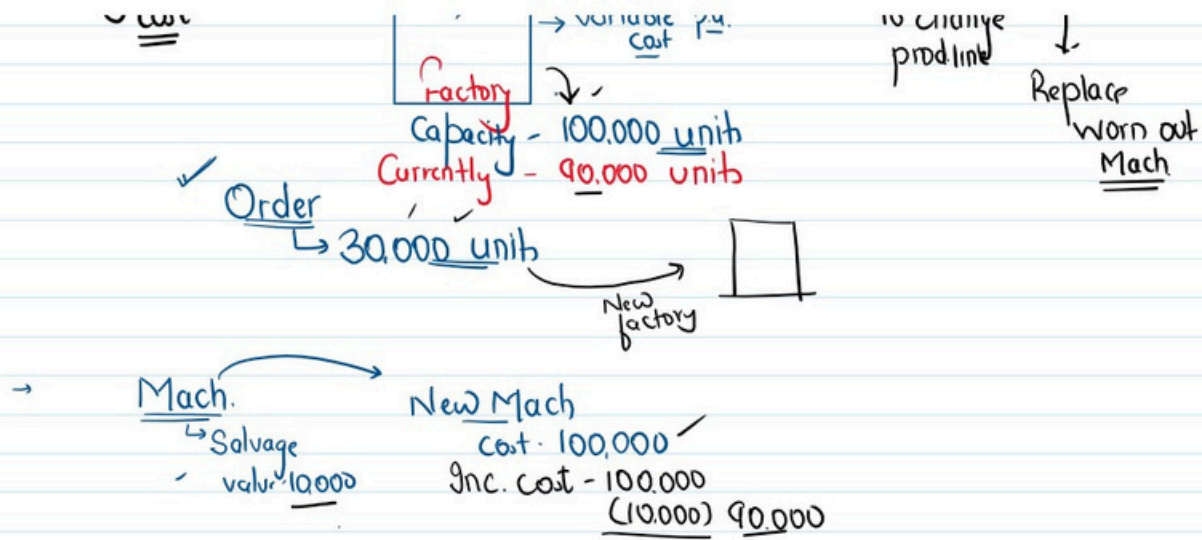
↓  
Marginal cost



→ variable cost p.u.

↓  
To change prod. line

↓  
Replace



## - Sunk cost

2022 - Research → £10,000 - ROI x  
 Rent ↓ Structure  
 Court ↓ Sunk

cost  
 → Already incurred once & for all and can't be recovered.  
 → Research & Development, Advertisement.

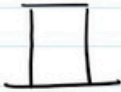
\* Sunk cost act as an important barrier to entry of firms into business.  
 Ex- Research exp, license.

## \* Historical & Replacement cost

Historical cost - Refers to the cost incurred in the past on acquisition of Assets such as Mach, build. etc.

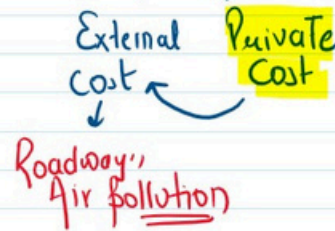
- Replacement cost - Exp. that has to be incurred for replacing an old Asset.

## \* Private cost & Social cost

Private cost -  Cost actually incurred by the firm.  
 PPL  
 ↓  
Economic cost - Exp. cost  
 Imp cost

Common cost   Joint cost

Social cost - Cost borne by the Society on account of a bus. Act.  
 ↓  
Society



### \* Fixed cost

Mach. ₹100,000

Cap- 10,000 units

○ — 10,000  
 '100,000

→ Offline class - Rent 50,000 pm.  
 100 students →  
 ○ - 100 students.  
 ₹50,000 pm.

→ They do not vary with output upto a certain level of activity.

### \* → Function of Capacity.

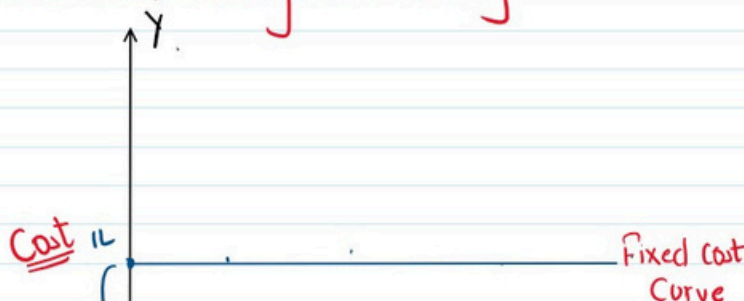
→ Cannot be avoided ✓

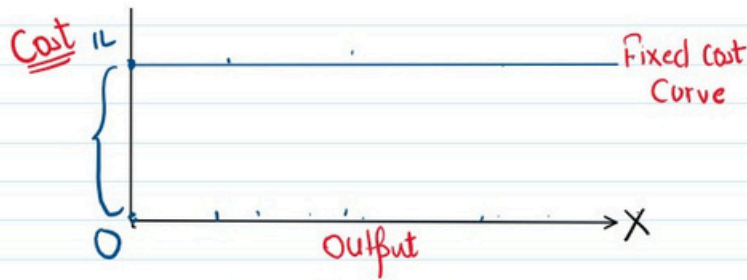
→ Can be avoided when operations are completely closed down.

→ Independent of output

→ Temporary shut down - Fixed cost can't be avoided.

Ex- Insurance, Management Salary





→ Shut down Cost - Cost which will continue even after operations are suspended  
 Ex- Storing of old Machines which can't be sold in the market.

→ Programmed Fixed Cost or Discretionary exp → Advertising  
 ↓  
 Depends on the decision of the Management

## Variable Cost

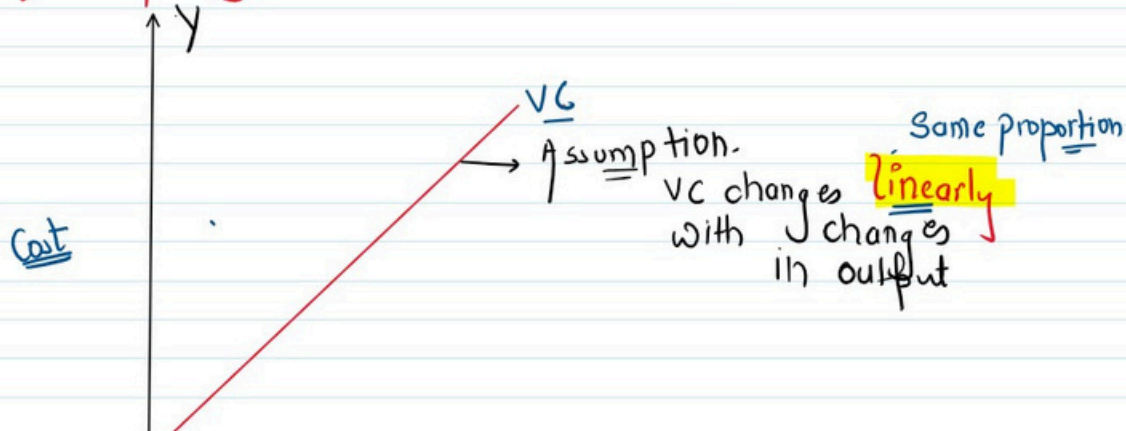
↓  
 Cost which changes with change in output.

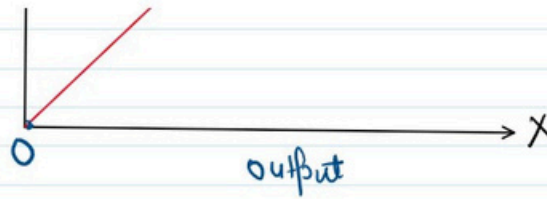
→ Function of output.  
 Ex Raw Mat. wages.

→ Generally, VC vary proportionately with output  
 ↑ output by 20% - VC ↑ 20%.

✓ However, over certain ranges of production, VC may vary less or more than proportionately.

- In case of temporary shut down - No variable cost





## \* Semi-Variable Cost / Semi-Fixed cost

Example - Catering Services

Electricity

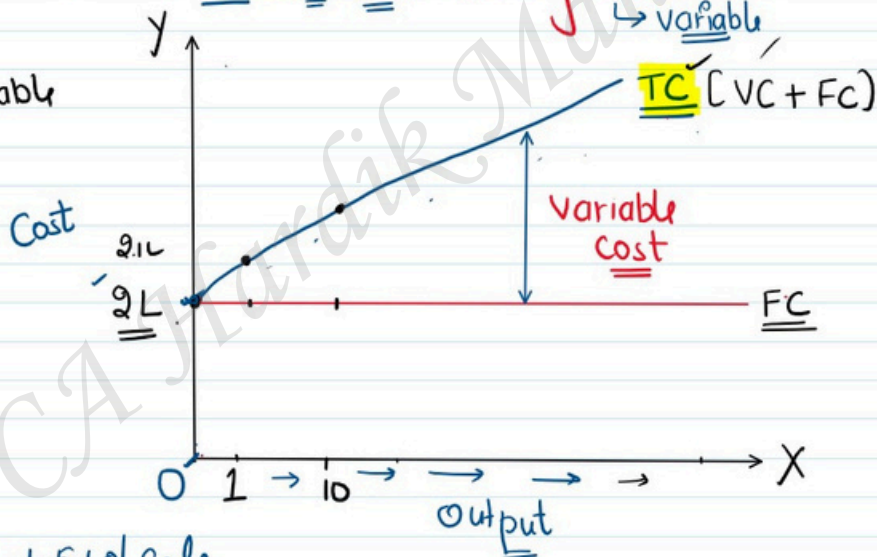
0 - 1000 people → £200,000 - fixed cost  
 ↑ 1000 ✓ £200 per plate variable cost

## \* Example - Classplus Services

£200,000 - fixed cost

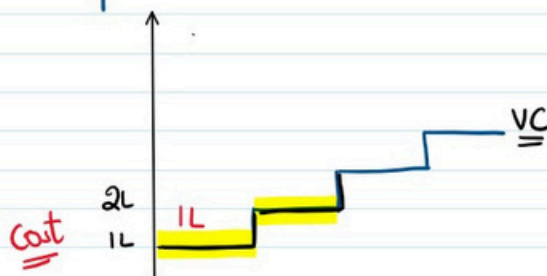
✓ + 10% comm. on every sale → variable

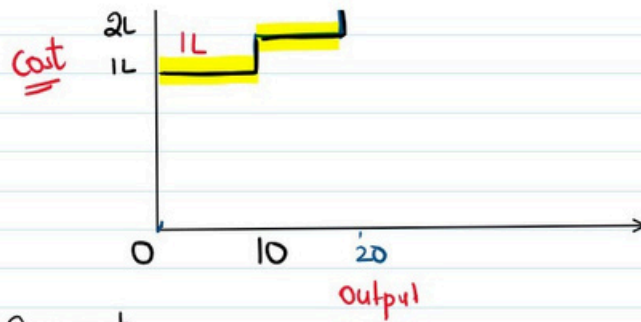
Semi-variable cost



✓ 50 Lac + 5.0% sale

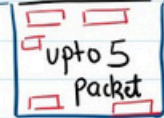
## \* Stair-Step Variable cost





→ Doubt Support  
 ↳ Teachers - 100,000 p.m  
 upto 10 Students

Ex- Shack

 - Packaging  
 upto 5 packet → ₹ 20 ✓

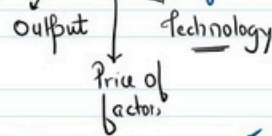
| Units       | Cost |
|-------------|------|
| upto 5 unit | 20   |
| 6           | 40   |
| 7           | 40   |
| 8           | 40   |
| 9           | 40   |
| 10          | 40   |
| 11          | 60   |

→ Fixed over certain range of output  
 + new level when output goes beyond a given limit.

x — x

## \* Cost Function

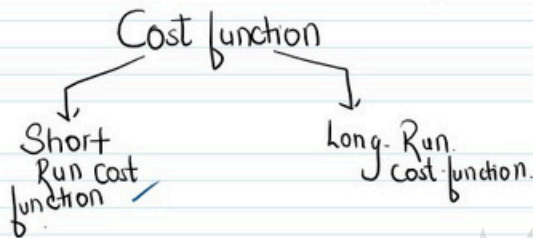
Mathematical relation b/w cost of a product & various determinants of cost



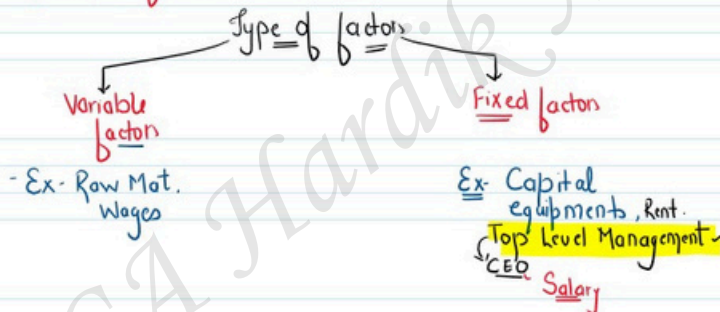
→ Cost function is obtained from production function & market supply of inputs.

market prices of inputs.

→ It expresses the relationship b/w cost & output



### 1. Short Run Cost function:



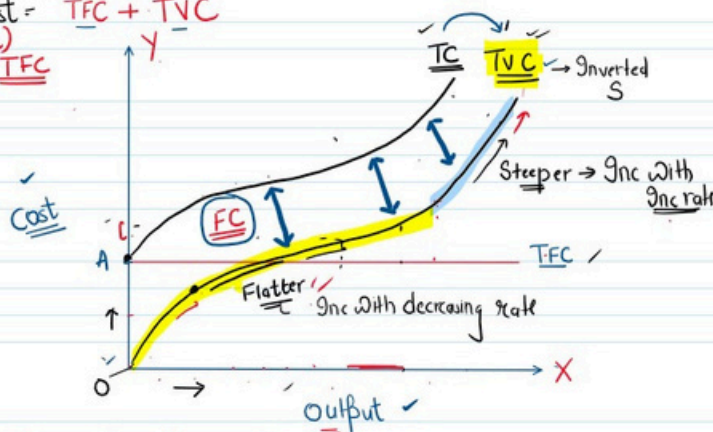
$x = x$

#### 1) Short Run Total Cost

FC TVC

$$\text{Total cost} = \text{TFC} + \text{TVC}$$

$$\Rightarrow \text{TC} - \text{TVC} = \text{TFC}$$



|          |       |       |       |
|----------|-------|-------|-------|
| Units of | Total | Total | Total |
|----------|-------|-------|-------|

0 → output ✓

| Units of output | Total fixed cost | Total variable cost | Total cost |
|-----------------|------------------|---------------------|------------|
| 0 ✓             | 1000             | 0 ✓                 | 1000 → FC  |
| 1               | 1000             | 50                  | 1050       |
| 2               | 1000             | 90                  | 1090       |
| 3               | 1000             | 140                 | 1140       |
| 4               | 1000             | 196                 | 1196       |
| 5               | 1000             | 255                 | 1255       |
| 6               | 1000             | 325                 | 1325       |
| 7               | 1000             | 400                 | 1400       |
| 8               | 1000             | 480                 | 1480       |
| 9               | 1000             | 570                 | 1570       |
| 10              | 1000             | 670                 | 1670       |
| 11              | 1000             | 780                 | 1780       |
| 12              | 1000             | 1080                | 2080       |

1) TFC remains fixed for the whole range of output.  
Parallel to X-axis even if output is zero

2) TVC rises upward indicating that as output ↑ TVC ↑  
It starts from origin, because VC=0 when output=0.  
Inverted S-shape.

3) TC curve is addition of TFC + TVC

⇒ Slopes of TC & TVC are same at every level of output  
Vertical distance b/w TC & TVC = TFC

Importance:

1) TVC initially increases at decreasing rate & then at an increasing rate with inc. in output.

Because of Law of variable proportion

Stage I  
Due to increasing Ret. to factor  
↓  
Fewer qty of variable input req. to produce to given output.

Stage II  
Diminishing Ret. to factor  
↓  
Larger qty. of variable input are req. to produce the same qty. of output.

⇒ VC curve is steeper at higher level of output.

\* Short Run Average Cost

Slope same : MC

| Units of output | Total fixed cost | Total variable cost | Total cost | Average fixed cost | Average variable cost | Average total cost | Marginal cost |
|-----------------|------------------|---------------------|------------|--------------------|-----------------------|--------------------|---------------|
| 0               | 1000             | 0                   | 1000       | -                  | -                     | -                  | -             |

| Units of output | Total fixed cost | Total variable cost | Total cost | Average fixed cost | Average variable cost | Average total cost | Marginal cost |
|-----------------|------------------|---------------------|------------|--------------------|-----------------------|--------------------|---------------|
| 0               | 1000             | 0                   | 1000       | -                  | -                     | -                  | -             |
| 1               | 1000             | 50                  | 1050       | 1000.00            | 50.00                 | 1050.00            | 50            |
| 2               | 1000             | 90                  | 1090       | 500.00             | 45.00                 | 545.00             | 40            |
| 3               | 1000             | 140                 | 1140       | 333.33             | 46.67                 | 380.00             | 50            |
| 4               | 1000             | 196                 | 1196       | 250.00             | 49.00                 | 299.00             | 56            |
| 5               | 1000             | 255                 | 1255       | 200.00             | 51.00                 | 251.00             | 59            |
| 6               | 1000             | 325                 | 1325       | 166.67             | 54.17                 | 220.83             | 70            |
| 7               | 1000             | 400                 | 1400       | 142.86             | 57.14                 | 200.00             | 75            |
| 8               | 1000             | 480                 | 1480       | 125.00             | 60.00                 | 185.00             | 80            |
| 9               | 1000             | 570                 | 1570       | 111.11             | 63.33                 | 174.44             | 90            |
| 10              | 1000             | 670                 | 1670       | 100.00             | 67.00                 | 167.00             | 100           |
| 11              | 1000             | 780                 | 1780       | 90.91              | 70.91                 | 161.82             | 110           |
| 12              | 1000             | 1080                | 2080       | 83.33              | 90.00                 | 173.33             | 300           |

### 1) Average Fixed Cost

$\rightarrow \frac{TFC}{Q} = AFC$   
- FC per unit of output

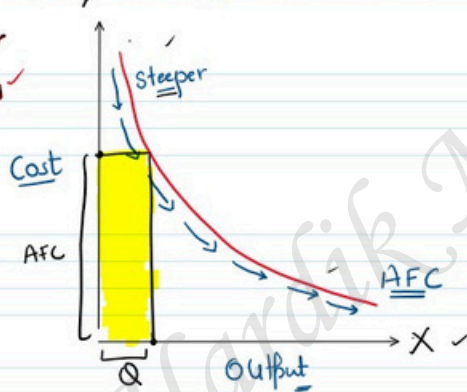
→ Since TFC is a constant amt, AFC will fall as output increases

→ AFC will keep on falling, but will never touch x-axis, i.e. will never be 0

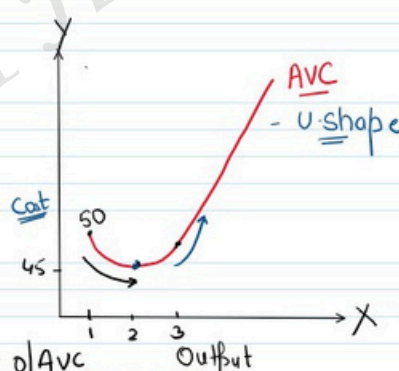
→ AFC: Rectangular Hyperbola

$$= AFC \times Q$$

$$= \frac{TFC}{\text{Constant}}$$



### 2) Average Variable Cost



Shape of AVC

1) fall as output increases from 0 to normal capacity

→ Inc. return to variable factor

2) Increase steeply beyond normal capacity output

→ Dimin. Ret.

### 3) Marginal Cost

→ MC is addition to TC due to production of add. unit of output.

## 3) Marginal Cost

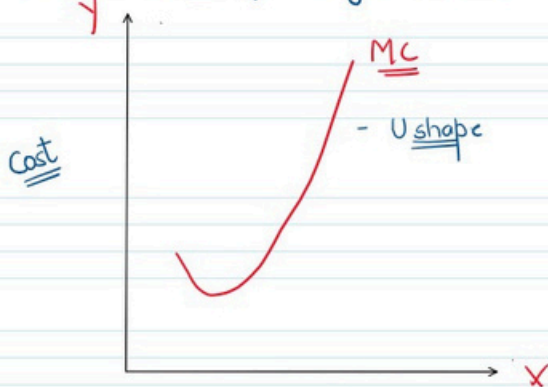
MC is addition to TC due to production of add. unit of output.

$$MC = TC_n - TC_{n-1}$$

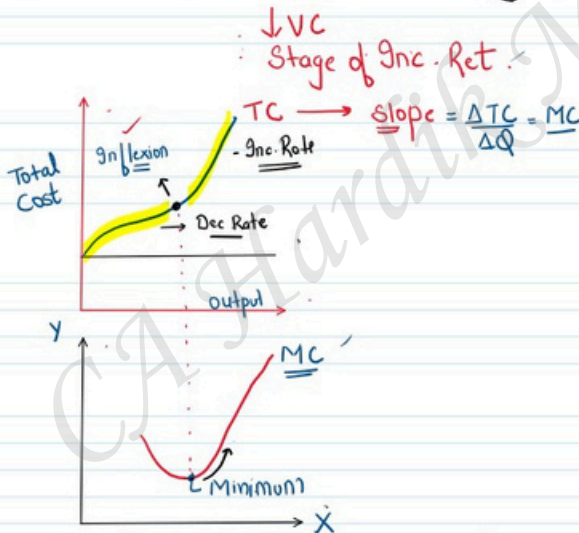
$$MC = \frac{\Delta TC}{\Delta Q} \text{ [slope of TC]}$$

→ MC is independent of FC.

→ MC is the result of change in VC.



→ MC falls as output inc in the beginning



→ MC curve is Minimum at inflection point on TC curve.

→ MC starts to rise after inflection point.

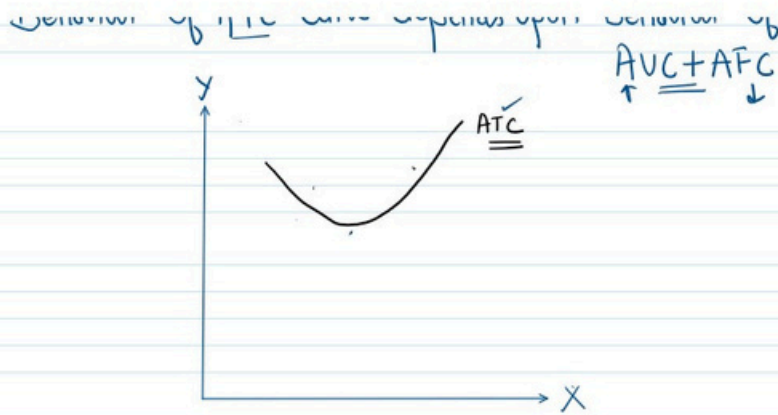
## 4) Average Total Cost (ATC)

$$ATC = \frac{TC}{Q} = \frac{TVC}{Q} + \frac{TFC}{Q}$$

$$= \frac{TVC}{Q} + \frac{TFC}{Q} = AVC + AFC$$

→ Behaviour of ATC curve depends upon behaviour of

$$AVC + AFC$$



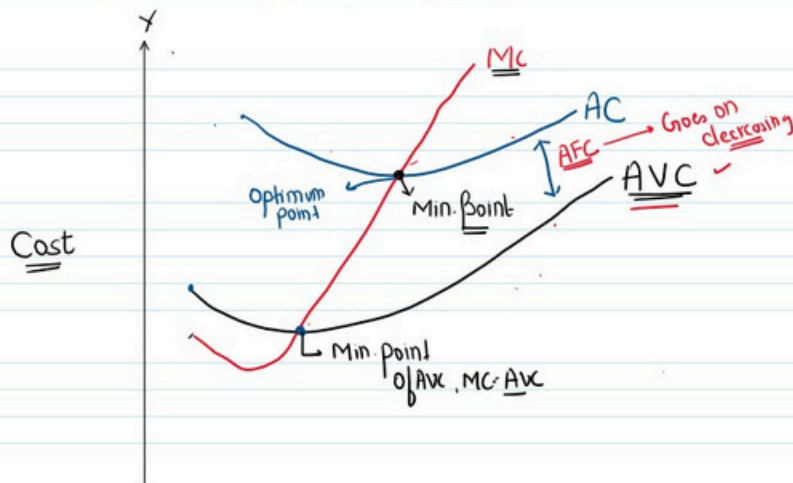
- 1) In the beginning, both AVC & AFC falls, therefore, ATC curve also falls sharply.
- 2) When AVC starts to rise, but AFC still falls sharply.  
 — ATC continues to fall  
 fall is  $\downarrow$  AFC > Rise in AVC curve
- 3) As output increases further, there is sharp <sup>Rise</sup> in AVC which is more than fall in AFC.  
 $\downarrow$  ATC starts to Rise.

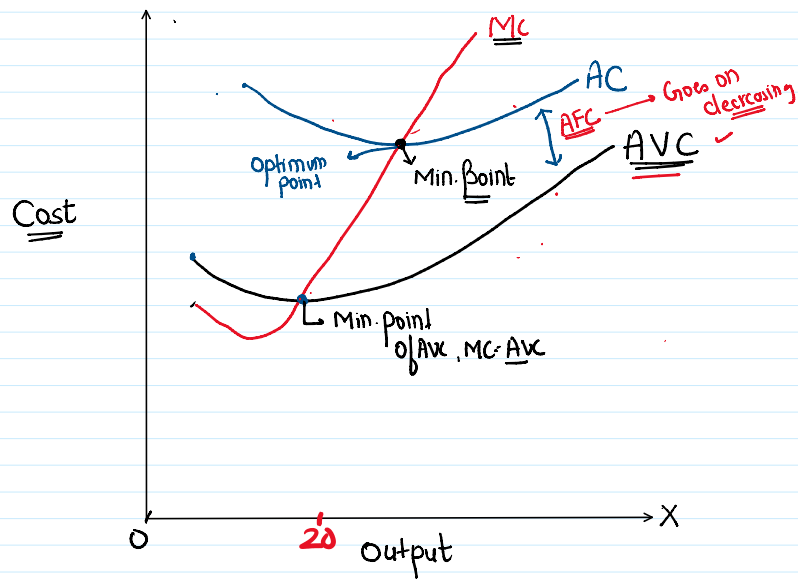
Ans \* Relationship b/w AC & MC

1.  $AC > MC \rightarrow$  AC falls
2.  $AC < MC \rightarrow$  AC rises.
3.  $AC = MC \rightarrow$  AC is at minimum point  $\rightarrow$  optimum point

Ex

| Output | TC | MC | AC  |
|--------|----|----|-----|
| 1      | 5  | 5  | 5   |
| 2      | 9  | 4  | 4.5 |
| 3      | 12 | 3  | 4   |
| 4      | 16 | 4  | 4   |
| 5      | 21 | 5  | 4.2 |





$x \rightarrow x$

CA Hardik Manchanda

# MCQs

25 September 2023 20:22



25th  
Sep\_MCQs

CA Hardik Manchanda

### Multiple Choice Questions

1) Which cost ~~does not~~ increases continuously with the increase in production?

- a) Average cost ✓
- b) Marginal cost
- c) Average variable cost curve
- ✓ d) Average fixed cost curve

2) The vertical difference between TVC and TC is equal to:

- a) MC
- b) AVC
- ✓ c) TFC
- d) None of the above

$$\begin{aligned} TC &= TVC + TFC \\ \underline{TC} - \underline{TVC} &= \underline{TFC} \end{aligned}$$

### Multiple Choice Questions

3) Which of the following statements is correct?

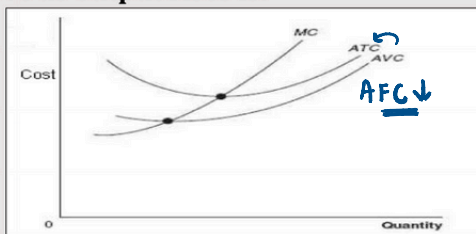
- a) Fixed cost vary with change in output ✗
- b) If we add total variable cost and total fixed cost we get the average cost ✗
- c) Marginal cost is the result of total cost divided by number of units produced  $\frac{TC}{Q} = AC$
- ✓ d) Total cost is obtained by adding up the fixed cost and total variable cost

4) Marginal cost changes due to changes in \_\_\_\_\_

- a) Total cost
- b) Average cost
- ✓ c) Variable cost  $\hookrightarrow \underline{VC}$
- d) Quantity of output

### Multiple Choice Questions

5) In figure below, possible reason why the average variable cost approaches the average total cost curve as output rises is:



- a) Fixed cost are falling while total costs are rising at rising output
- b) Total costs are rising and average costs are also rising
- c) Marginal costs are above average variable costs as output rises
- d) Average fixed costs are falling as output rises.

### Multiple Choice Questions

6) Economic costs of production differ from accounting costs of production because:

- a) Economic costs include expenditures for hired resources while accounting costs do not. ~~X~~
- ~~X~~ b) Accounting costs include opportunity costs which are deducted later to find paid out costs.
- c) Accounting costs include expenditures for hired resources while economic costs do not. ~~X~~
- ~~X~~ d) Economic costs add the opportunity cost of a firm which uses its own resources.

### Multiple Choice Questions

7) **Implicit costs can be defined as:**

- a) Money payments made to the non-owners of the firm for the self-owned factors employed in the business and therefore not entered into books of accounts. ✗
- ~~b) Money not paid out to the owners of the firm for the self-owned factors employed in a business and therefore not entered into books of accounts. ✓~~
- c) Money payments which the self-owned and employed resources could have earned in their next best alternative and therefore entered into books of accounts.
- d) Money payments which the self-owned and employed resources earn in their best use and therefore entered into books of accounts. Imp cost ✗

### Multiple Choice Questions

8) The marginal cost for the firm of producing the 9<sup>th</sup> unit of output is Rs. 20. Average cost at the same level of output is Rs. 15. Which of the following must be true?

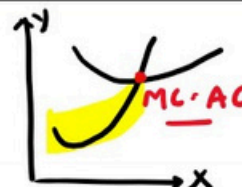
$$MC = 20 > AC = 15 \quad AC \uparrow$$

- ~~a) Marginal cost and average cost are both falling~~
- ~~b) Marginal cost and average cost are both rising~~ ✓
- ~~c) Marginal cost is rising and average cost is falling~~ ✗
- ~~d) It is impossible to tell if either of the curves are rising or falling~~

9) When marginal costs are below average total costs,

- a) Average fixed costs are rising
- ~~b) Average total costs are falling~~
- c) Average total costs are rising
- d) Average total costs are minimized

$$MC < AC \quad AC \downarrow$$



### Multiple Choice Questions

- 10) Which of the following statements is false in respect of fixed cost of a firm?
- (a) As the fixed inputs for a firm cannot be changed in the short run, the TFC are constant, except when the prices of the fixed inputs change.
  - ✓ (b) TFC continue to exist even when production is stopped in the short run, but they exist in the long run even when production is not stopped.
  - (c) Total Fixed Costs (TFC) can be defined as the total sum of the costs of all the fixed inputs associated with production in the short run.
  - (d) In the short run, a firm's fixed cost cannot be escaped even when production is stopped.

### Multiple Choice Questions

- 11) A firm's average fixed cost is ₹ 20 at 6 units of output. What will it be at 4 units of output?
- (a) ₹ 60
  - ✓ (b) ₹ 30
  - (c) ₹ 40
  - (d) ₹ 20
- 12) A firm has a variable cost of ₹ 1000 at 5 units of output. If fixed costs are ₹ 400, what will be the average total cost at 5 units of output?
- ✓ (a) ₹ 280
  - (b) ₹ 60
  - (c) ₹ 120
  - (d) ₹ 1400

$$AFC = \frac{TFC}{Q}$$

$$TFC = AFC \times Q$$

$$AFC = \frac{120}{4} = 30$$

$$TC = \frac{1400}{5}$$

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### Multiple Choice Questions

13) A firm producing 7 units of output has an average total cost of ₹ 150 and has to pay ₹ 350 to its fixed factors of production whether it produces or not. How much of the average total cost is made up of variable costs?

- (a) ₹ 200 (b) ₹ 50  
(c) ₹ 300 (d) ₹ 100

$$TC = 150 \times 7 = 1050$$

$$AFC = 50$$

$$AVC = \frac{1050 - 350}{7} = 100$$

14) A firm's average total cost is Rs. 300 at 5 units of output and Rs. 320 at 6 units of output. The marginal cost of producing the 6<sup>th</sup> unit:

- a) Rs. 20  
b) Rs. 120  
c) Rs. 320  
d) Rs. 420

$$TC = 1500$$

Change in TC

$$1920$$

### Multiple Choice Questions

15) Suppose output increases in the short run. Total cost will:

- (a) increase due to an increase in fixed costs only. ✗  
(b) increase due to an increase in variable costs only. ✗  
(c) increase due to an increase in both fixed and variable costs. ✗  
(d) decrease if the firm is in the region of diminishing returns. ✗

16) Which of the following statements is correct concerning the relationships among the firm's cost functions?

- (a)  $TC = TFC + TVC$  (b)  $TVC = TFC - TC$   
(c)  $TFC = TC - TVC$  (d)  $TC = TVC - TFC$

### Multiple Choice Questions

- 17) Which of the following is not a determinant of the firm's cost function?
- (a) The production function. (b) The price of labour. *selling price*  
 (c) Taxes.  $\uparrow$  (d)  $\checkmark$  The price of the firm's output.
- 18) Which of the following statements is true of the relationship among the average cost functions?
- (a)  $ATC = AFC + AVC$ . (b)  $AVC = AFC + ATC$ . *ATC - AFC*  
 (c)  $AFC = ATC + AVC$ . (d)  $\checkmark$   $AFC = ATC - AVC$ .

### Multiple Choice Questions

- ~~19)~~ Which of the following is true of the relationship between the marginal cost function and the average cost function?
- (a) If MC is greater than ATC, then ATC is falling.  $\uparrow$   
 (b) The ATC curve intersects the MC curve at minimum MC.  
 (c)  $\checkmark$  The MC curve intersects the ATC curve at minimum ATC.  
 (d) If MC is less than ATC, then ATC is increasing.  $\downarrow$
- 20) Marginal cost is defined as:
- (a)  $\checkmark$  the change in total cost due to a one unit change in output.  
 (b) total cost divided by output. *AC*  
 (c) the change in output due to a one unit change in an input.  $\times$   
 (d) total product divided by the quantity of input.  $\times$

### Multiple Choice Questions

- 21) Which of the following is an example of an "implicit cost"?
- (a) Interest that could have been earned on retained earnings used by the firm to finance expansion.
  - (b) The payment of rent by the firm for the building in which it is housed.
  - (c) The interest payment made by the firm for funds borrowed from a bank. - *Explicit*
  - (d) The payment of wages by the firm.
- 22) Which of the following is an example of "explicit cost"?
- (a) The wages a proprietor could have made by working as an employee of a large firm. *Implicit*
  - (b) The income that could have been earned in alternative uses by the resources owned by the firm. *Ent -*
  - (c) The payment of wages by the firm. - *Exp*
  - (d) The normal profit earned by a firm.

### Multiple Choice Questions

Use the following data to answer questions 23-25

$$FC = 240/2 = 120$$

| Output (O)      | 0     | 1     | 2     | 3     | 4     | 5     | 6     |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Total Cost (TC) | ₹ 240 | ₹ 330 | ₹ 410 | ₹ 480 | ₹ 540 | ₹ 610 | ₹ 690 |

- 23) The average fixed cost of 2 units of output is :
- (a) ₹ 80
  - (b) ₹ 85
  - (c) ₹ 120
  - (d) ₹ 205
- 24) The marginal cost of the sixth unit of output is :
- (a) ₹ 133
  - (b) ₹ 75
  - (c) ₹ 80
  - (d) ₹ 450

### Multiple Choice Questions

Use the following data to answer questions 23-25

|                 |       |       |       |       |       |       |       |
|-----------------|-------|-------|-------|-------|-------|-------|-------|
| Output (O)      | 0     | 1     | 2     | 3     | 4     | 5     | 6     |
| Total Cost (TC) | ₹ 240 | ₹ 330 | ₹ 410 | ₹ 480 | ₹ 540 | ₹ 610 | ₹ 690 |

25)

Diminishing marginal returns start to occur between units:

- (a) 2 and 3. (b) 3 and 4.  
(c) 4 and 5. (d) 5 and 6.

### Multiple Choice Questions

26)

Which of the following statements is correct?

- (a) When the average cost is rising, the marginal cost must also be rising.  
(b) When the average cost is rising, the marginal cost must be falling. ✗  
(c) When the average cost is rising, the marginal cost is above the average cost. ✓  
(d) When the average cost is falling, the marginal cost must be rising.

27)

With which of the following is the concept of marginal cost closely related?

- (a) Variable cost. (b) Fixed cost.  
(c) Opportunity cost. (d) Economic cost.

### Multiple Choice Questions

28) Total cost in the short run is classified into fixed costs and variable costs. Which one of the following is a variable cost?

- (a) Cost of raw materials. (b) Cost of equipment.  
(c) Interest payment on past borrowings. (d) Payment of rent on building.

29) Which of the following cost curves is never 'U' shaped?

- (a) Average cost curve. (b) Marginal cost curve.  
(c) Average variable cost curve. (d) Average fixed cost curve.

### Multiple Choice Questions

30) Suppose the total economic cost of production of a commodity X is 1,25,000 out of which implicit cost 35,000. What would be the explicit cost of commodity?

- a) Rs. 90,000  
b) Rs. 65,000  
c) Rs. 1,00,000  
d) Rs. 60,000

$$\begin{array}{r} 125000 \\ - 35000 \\ \hline 90000 \end{array}$$

31) If there are Implicit cost of production:

- ~~a) Economic profit will be equal to Accounting Profit~~  
b) Economic profit will be less than Accounting profit  
c) Economic profits will be zero X  
d) Economic profit will be more than Accounting profit.

AP  
= Imp  
- EP

$$\begin{array}{l} \text{Sales} - 100 \\ \text{EC} = \underline{40} \\ \text{AP} = 60 \end{array}$$

$$\begin{array}{l} \text{Imp} = 10 \\ \text{EP} = \underline{50} \end{array} \quad \begin{array}{l} \text{Implicit cost} \\ \text{Acc Profit} \end{array}$$

### Multiple Choice Questions

32) <sup>which</sup> Cost is the Total Additional Cost that a Firm has to incur, as a result of implementing a major managerial decision.

a) Sunk

☒ b) Incremental

c) Opportunity

d) Marginal - 1 add output

33) Fixed cost are a function of:

a) Output

☒ b) Capacity

c) Time

d) They can never be changed

### Multiple Choice Questions

34) \_\_\_\_\_ cost includes the cost of resources for which the firm is not required to pay prices such as atmosphere, rivers, roadways, etc.

a) Private cost

☒ b) Social cost

c) Incremental cost

d) Sunk cost

☒ 35) Costs incurred towards the salary of foremen will have a sudden jump if another foreman is appointed when the output crosses a particular limit is an example of:

a) Semi variable cost

☒ b) Stair step variable cost

c) Completely variable cost

d) Completely fixed cost

x — x

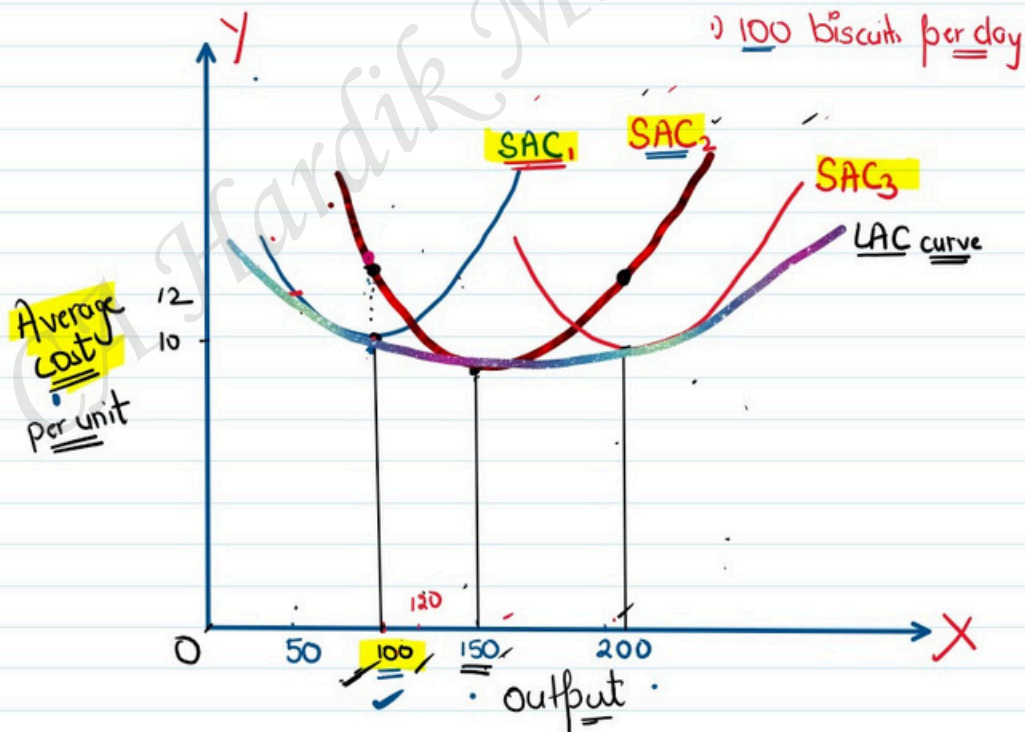
## → LONG RUN Average Cost Curve

In the Long Run:

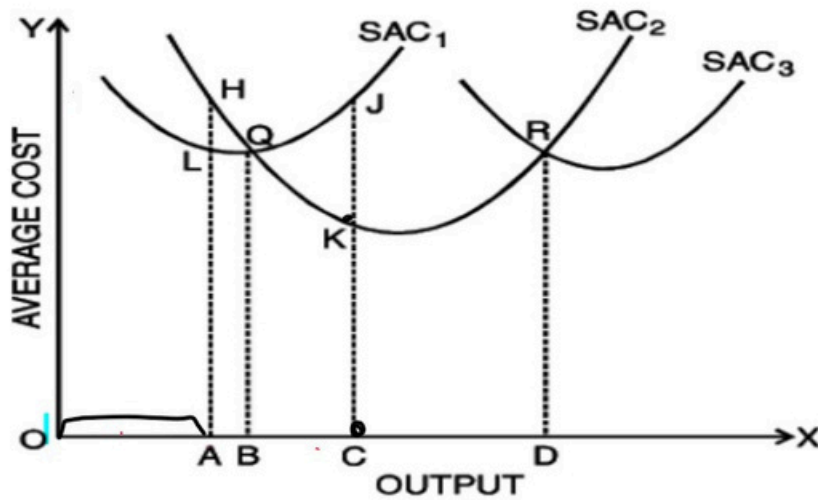
- Firm can build any size or scale of plant
- can move from one plant to another
  - acquire a big plant - if want to increase plant
  - small plant - if want to reduce plant

- Long Run - Planning Horizon.
- Short Run - Production period.

- Long Run cost of production - least possible cost of producing any level of output when all factors are variable.

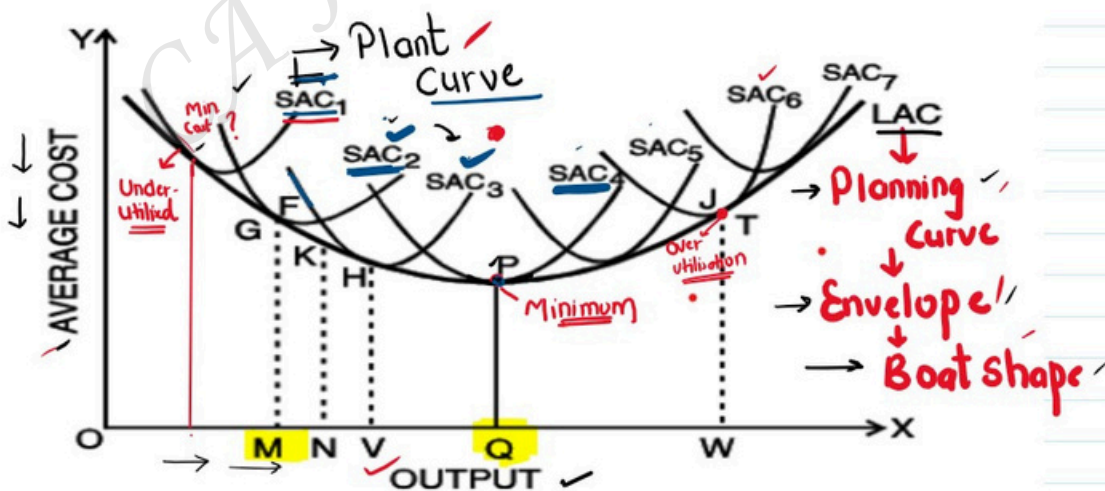


→ In the long run, the firm will examine which size of plant or on which SAC curve, it should operate to output at min. cost.



To produce the foll. output level, which SAC to choose?

- 1) OA - SAC<sub>1</sub>
- 2) OB - SAC<sub>1</sub> or SAC<sub>2</sub>  
→ upto OB level of output - SAC<sub>1</sub>
- 3) OC - SAC<sub>2</sub>
- 4) OD - SAC<sub>2</sub> or SAC<sub>3</sub>  
from OB till OD  
[OB > OD] → SAC<sub>2</sub>
- 5) More than OD - SAC<sub>3</sub>



Long Run Cost curve - depict the functional relationship b/w output & long run cost of prod.

- 1) Long Run average cost curve is a smooth curve enveloping all the SAC curves

- 1) Long Run average cost curve is a smooth curve enveloping all the SAC curves.
- 2) LAC curve is tangent to the SAC curve.
- 3) Larger output can be produced at the lowest cost with larger plant whereas, smaller output can be produced at the lowest cost with smaller plants.

Imp point:-

LAC curve is not tangent to minimum point of the SAC curve.

When LAC curve is declining

It is tangent to falling portion of SAC.

for output less than  $Q_0$   
 ↓  
 firm has to operate at less than full capacity  
 ↓  
 → less than its min. Average cost of production.

When LAC is rising

It is tangent to the rising portion of SAC.

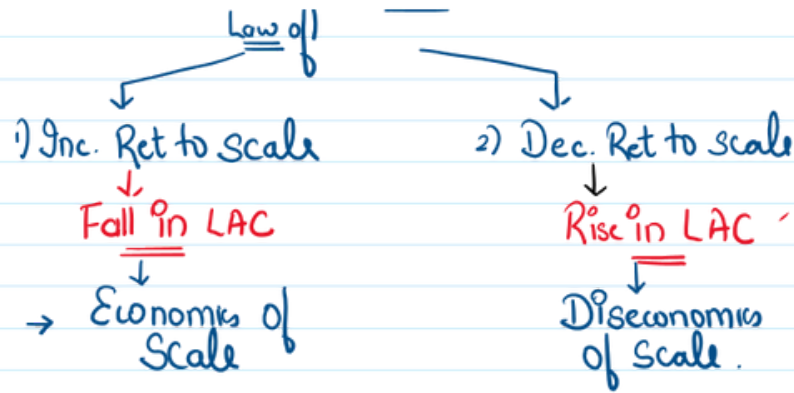
output larger than  $Q_0$   
 - firm will operate beyond optimum capacity

→  $Q_0$  is the optimum output  
 ↓  
 Min. point of LAC & corresponding SAC.

x — x

Why U shape of LAC?

→ Nothing to do with U shape SAC  
 → U shape arises due to Return to Scale.  
 ↓  
 Law of



- The above analysis is based on traditional economic analysis.

→ As per Practical Observations / Empirical evidence - shows modern firms face

"L" shape

Initially, when output is increased due to increase in size of plant

p.u. cost falls rapidly  
↓  
Economies of Scale

→ LAC curve does not increase even after large scale of output.

## 1) Economies & Diseconomies of Scale

### Internal Economies

- Benefits which accrue to the firm when it expands - due to own effort.
- Due to **endogenous** factors  
↓  
arising within firm.
- Relating of efficiency of Entrepreneur, Marketing Strategies, technology, etc.
- Benefits are available **exclusively** to the firm.

### External economies

- Benefit accruing to each member of firm of the industry as a result of expansion of industry.
- Not dependent on the output level of individual firm.

## 1 Internal Economies & Diseconomies

|                         | <u>Economies</u>                                                                                                                                                                                                                                                                                    | <u>Diseconomies</u>                                                                                                            |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 1) Technical            | <p>With inc. in operations, it becomes possible to use superior technology, specialised equipment &amp; machinery.</p> <p>↓<br/>More efficiency - lower p.u. cost</p> <p>→ Advantage of <b>composite</b> technology.</p> <p>→ Greater degree of division of labour &amp; <b>specialisation</b>.</p> | <p>Beyond a certain point,</p> <p>→ Difficulties of Management</p> <p>→ Difficult to exercise control &amp; co-ordination.</p> |
| 2) Managerial economies | <p>→ Possible to divide its management into specialised departments</p> <p>- Sales, Marketing, etc.</p> <p>↓<br/>Management efficiency</p>                                                                                                                                                          | <p>- Communication at diff level b/w Managers &amp; labourers becomes diff</p> <p>↓<br/>Delay in decision making</p>           |

|                 |                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                          |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                 | <p>↓</p> <p>Management efficiency<br/>↓<br/>Inc. in productivity</p> <p>→ Decentralisation of Decision making &amp; mechanisation of Managerial functions.</p>                                                                                                                                                                 | <p>Delay in decision making</p> <ul style="list-style-type: none"> <li>- Diff. to exercise control &amp; Co-ordination.</li> <li>- Red tapism</li> </ul> |
| 3) Commercial   | <p>- Bulk orders for materials - lower <math>\frac{\text{P.u.}}{\text{of cost}}</math></p> <p>- Marketing: Add. output can be sold at little or no cost when sales staff is not being worked to full capacity.</p> <p>→ Large firms may also be able to sell its by product</p> <p>→ Economics of Transport &amp; storage.</p> | <p>→ After optimum scale, Adv. exp &amp; other Marketing exp. will increase <u>more</u> proportionately.</p>                                             |
| 4) Financial    | <p>→ Large firms can easily procure finance.</p> <p>→ offer better security.</p> <p>→ Raise capital at lower cost.</p>                                                                                                                                                                                                         | <p>- Cost of raising finance will <math>\uparrow</math> because of greater dependency on external finance.</p>                                           |
| 5) Risk bearing | <p>→ Large business with diverse &amp; multi production capability</p> <p>↓</p> <p>better position to withstand economic ups &amp; downs.</p>                                                                                                                                                                                  | <p>→ Diversification. Instead of giving a cover to economic disturbances, <u>increases</u> it.</p>                                                       |

## → External economies & Diseconomies

\* Economies

1) Raw Mat & Cap Eq.

1. Exploration of new & cheaper source of raw material, machines & cap eq.
2. Procurement of material & eq. at competitive prices.

- \* Diseconomies

- 1) Rise in various factor prices.  
↓  
because of inc. in demand for Raw Mat, labour, etc.
- 2) Higher Transportation & Marketing Cost
- 3) Govt may prohibit or restrict expansion of industry at a particular place.

# 4th Oct\_MCQs

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4th  
Oct\_MCQs

CA Hardik Manchanda

### Multiple Choice Questions

- 36) Which of the following statements describes increasing returns to scale?
- (a) Doubling of all inputs used leads to doubling of the output. - *Constant*
  - (b) Increasing the inputs by 50% leads to a 25% increase in output. - *Decreasing*
  - ~~(c)~~ Increasing inputs by  $\frac{1}{4}$  leads to an increase in output of  $\frac{1}{3}$ . - *Inc. 25% 33.33%*
  - (d) None of the above.
- 37) In the long run, if a very small factory were to expand its scale of operations, it is likely that it would initially experience
- (a) an increase in pollution level.
  - (b) diseconomies of scale.
  - ~~(c)~~ economies of scale.
  - (d) constant returns to scale.

### Multiple Choice Questions

- 38) A firm's long-run average total cost curve is
- (a) Identical to its long-run marginal-cost curve. ~~X~~
  - (b) Also its long-run supply curve because it explains the relationship between price and quantity supplied. ~~X~~
  - ~~X~~ In fact the average total cost curve of the optimal plant in the short run as it tries to produce at least cost. ☒
  - ~~(d)~~ Tangent to all the curves of short-run average total cost. ☒
- 39) Economies of scale exist because as a firm increases its size in the long run:
- (a) Labour and management can specialize in their activities more. - *Managerial*
  - ~~(b)~~ As a larger input buyer, the firm can get finance at lower cost and purchase inputs at a lower per unit cost. - *Financial*
  - (c) The firm can afford to employ more sophisticated technology in production. *Technical*
  - ~~(d)~~ All of these.

### Multiple Choice Questions

40) The positively sloped (i.e. rising) part of the long run average total cost curve is due to which of the following?

- ☒ (a) Diseconomies of scale.
- (b) Increasing returns.
- (c) The firm being able to take advantage of large-scale production techniques as it expands its output.
- (d) The increase in productivity that results from specialization.



41) The negatively-sloped (i.e. falling) part of the long-run average total cost curve is due to which of the following?

- (a) Diseconomies of scale. ✗
- (b) Diminishing returns. ✗
- (c) The difficulties encountered in coordinating the many activities of a large firm ✗
- ☒ (d) The increase in productivity that results from specialization.

### Multiple Choice Questions

42) Which of the following statements concerning the long-run average cost curve is false?

- (a) It represents the least-cost input combination for producing each level of output. ✓
- (b) It is derived from a series of short-run average cost curves. ✓
- ☒ (c) The short-run cost curve at the minimum point of the long-run average cost curve represents the least-cost plant size for all levels of output.
- (d) As output increases, the amount of capital employed by the firm increases along the curve.

43) Average Cost of Producing 50 units of a Commodity is 250 and variable cost is 10,000. What will be the average fixed cost of producing 100 units of the Commodity?

- a) 10
- b) 30
- c) 20
- ☒ d) 25

$$AFC = \frac{2500}{100}$$

$$\begin{aligned} AC &= 250 \\ TC &= 250 \times 50 \\ &= 12500 < FC 2500 \end{aligned}$$

### Multiple Choice Questions

44) In the long-run, the Firm will decide on which SAC Curve it should operate to produce a given output, so that its:

- ☒ a) AC is minimum
- b) AC is maximum
- c) MC is minimum
- d) MC is maximum

45) Which one of the following is also known as Plant Curve?

- a) Long-Run Average cost curve
- ☒ b) Short-Run Average cost curve
- c) Average variable cost curve
- d) Average Total cost curve

### Multiple Choice Questions

46) When LAC Curve is declining, it will be tangent to the:

- ☒ a) Falling portions of the SAC Curves
- b) Rising portions of the SAC Curves
- c) Both (a) and (b)
- d) Neither (a) and (b)

47) Commercial economies is related with:

- ☒ a) Production of large volumes of goods requires large amount of materials and components. - C
- b) A large firm has advantages over small firms in matters related to procurement of finance for its business activities. - F
- c) Large business with diverse and multi-production capability is in a better position to withstand economic ups and downs - Risk bearing
- d) Large-scale production is associated with economies of superior techniques. - T

### Multiple Choice Questions

48) Different department can be further sub divided into separate sections like sales can be split into separate sections such as for advertising, exports, and customer service is an example of:

- a) Technical economies
- ☒ b) Managerial economies
- c) Commercial economies
- d) Financial economies

49) The LAC curve which envelops the family of SAC curve, is "U" shape because:

- a) All SAC curves are U shaped
- b) Law of variable proportions
- ☒ c) Law of Return to scale
- d) All of the above

### Multiple Choice Questions

50) A long run cost curve depicts the functional relationship between output and \_\_\_\_\_

- a) Inputs
- b) Short run average cost
- ☒ c) Long run cost of production
- d) Production function

x — chapter Over — x

CA Hardik Manchanda