PRODUCTION COST

Q1 What is cost? what are the type of cost?

Ans-> The expenditure made for using other factors in the production process is termed as cost of production.

I) Money cost
(i) Explicit cost
(ii) Implicit cost
(iii) Normal profit

1) Money cost
- Explicit cost
- Implicit cost
- Normal profit

2) Real cost

3) Opportunity cost

Q2 Give the difference between fixed cost and variable cost?

Ans) Fixed cost | variable cost

1. It is related to fixed factors of production.	1. It is related to variable factor of production.
2. Fixed cost does not vary with production level. i.e. fixed cost remains unchanged with increase or decrease of production level.	2. Variable cost vary with production level, i.e. variable cost increase with increase in production and vice versa.
3. Total fixed cost remains unchanged even at the zero production level.	3. Total variable cost becomes zero at zero production level.
4. Graphically, TFC curve is parallel to x-axis	4. Graphically, TVC curve is inverse S-shaped.
5. It appears only in short period of production	5. It appears in both short period and long period of production.

Q3 what is total cost fixed cost and variable cost? Explain each of them with diagram.

Ans: Total cost (TC)

In short period

Total variable cost (TVC)

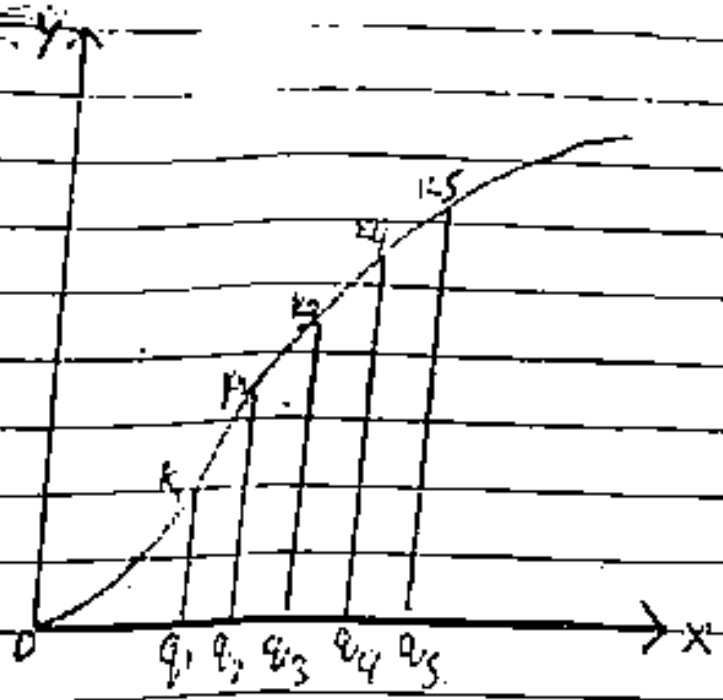

Fig. 2

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Variable costs are dependent on production level. Variable cost increases with increase in production level. In fig 2, TVC represents total variable cost line which originates from the origin O, It signifies that variable cost becomes zero at zero production level. Total variable costs KQ_1, LQ_2 .... are shown at production level OQ_1, OQ_2 ..... respectively which shows that total variable cost increases with increase in production level.

Q. Why is short run average cost curve U shape?

Ans → Law of variable proportion is operational in short period. In beginning due to increase returns, cost declines and after that cost becomes constant and rising due to constant and decreasing returns respectively appearing in production process, these three phases of changing returns in short period cause three changes in cost in short period which make average cost curve U-shaped.

Q. What do you mean by Average cost, Average fixed cost and Average variable cost?

Ans → • Average Cost (AC)
Per unit cost of producing a commodity is termed as average cost. Average total cost or average cost is total cost divided by total units of output.

$$ATC \text{ or } AC = \frac{TC}{q}$$

In short period,

$$TC = TFC + TVC$$

A) AFC falls downward from left to right because total fixed cost is constant, i.e., AFC falls with increase in production.

B) Initially AFC falls sharply and later on it falls slowly.

C) AFC never touches any axis, i.e. AFC takes the shape of a rectangular hyperbola.

D) AFC can never be zero.

- Average variable cost (AVC)
when total variable cost (TVC) is divided by production quantity (q), we obtain Average variable cost (AVC).

$$AVC = \frac{TVC}{q}$$

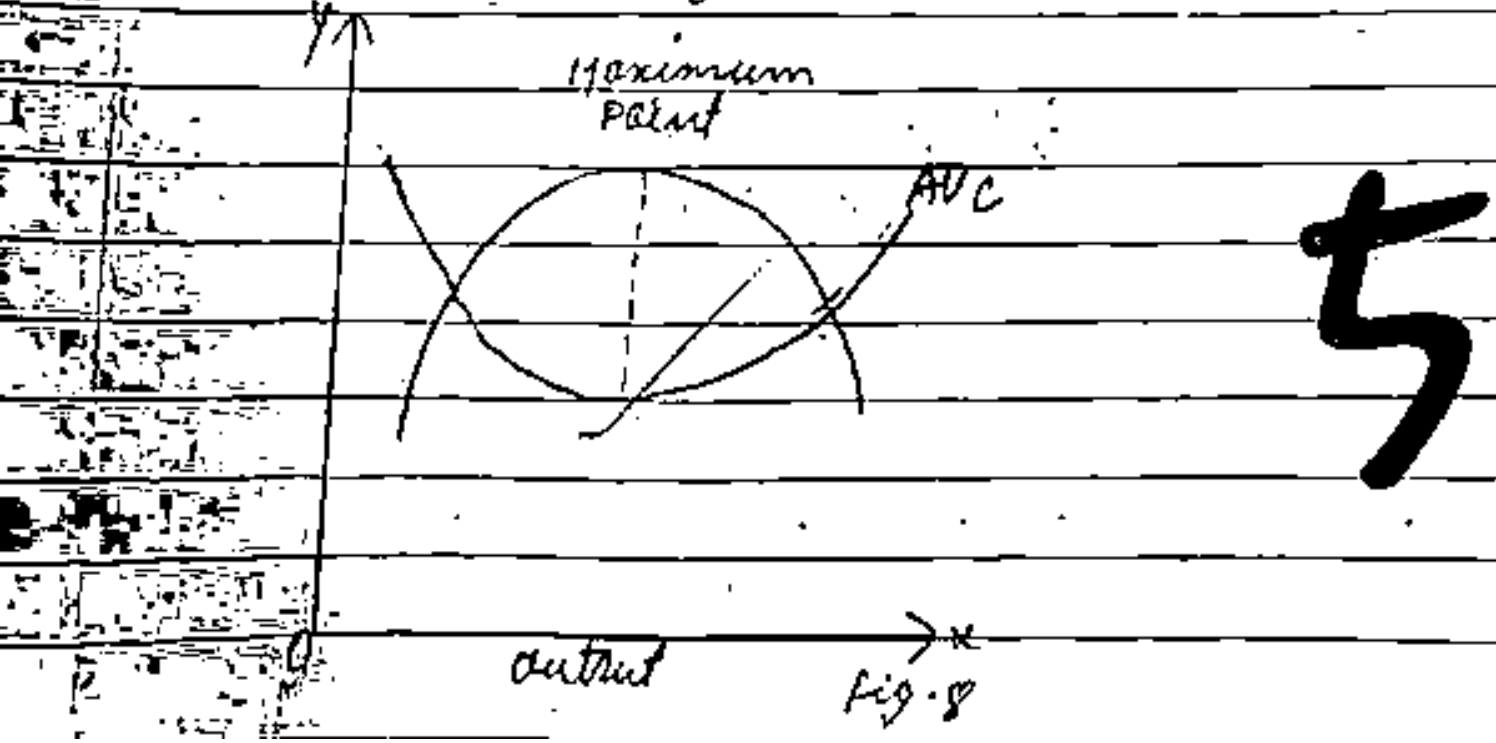

fig. 8

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The nature of AVC depends on the average productivity of variable factors used in the production. Average productivity of variable factor initially rises, becomes constant and then falls at the end. Hence, AP curve take the shape of inverted 'U'. Productivity and cost are inversely related, i.e., when AP rises, AVC falls and when AP falls, AVC rises, AVC takes just other opposite shape of AP and as a result AVC adopts the shape of 'U' as shown in fig: 8.

Q8 What is marginal cost? What relationship is there between marginal cost and average cost?

Ans→ Marginal means one additional. It is the addition made to the total variable cost or total cost by producing one more unit of output. The marginal cost of the nth unit of output is the total cost of producing 'n' units minus the cost of producing 'n-1' units (i.e., one less in the total 'n') of output

or $MC_n = TC_n - TC_{(n-1)}$

where MC_n = Marginal cost of nth unit

TC_n = Total cost of n units

$TC_{(n-1)}$ = Total cost of (n-1) units

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Proof

We know that,

$MC_n = TC_n - TC_{n-1}$ ..... (1)

$TC = TFC + TVC$ ..... (2)

Putting the value (2) in (1)

$MC = (TFC + TVC)_n - (TFC + TVC)_{n-1}$

$TFC_n + TVC_n - TFC_{n-1} - TVC_{n-1}$

Since $TFC_n = TFC_{n-1}$

$TFC_n + TVC_n - TFC_n - TVC_{n-1}$

$TVC_n - TVC_{n-1}$

So, $MC = TVC_n - TVC_{n-1}$

For example, if the total cost of producing 100 units of output is ₹ 1,020 and the total cost of 99 units is ₹ 990, then

$MC_{100th} = TC_{100} - TC_{99}$

$= 1020 - 990 = ₹ 30$

In other form, $MC = \frac{\Delta TC}{\Delta q} = \frac{\text{change in Total Cost}}{\text{change in output}}$

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The points showing the relation between AC and MC curves

1) Both are calculated by total cost.

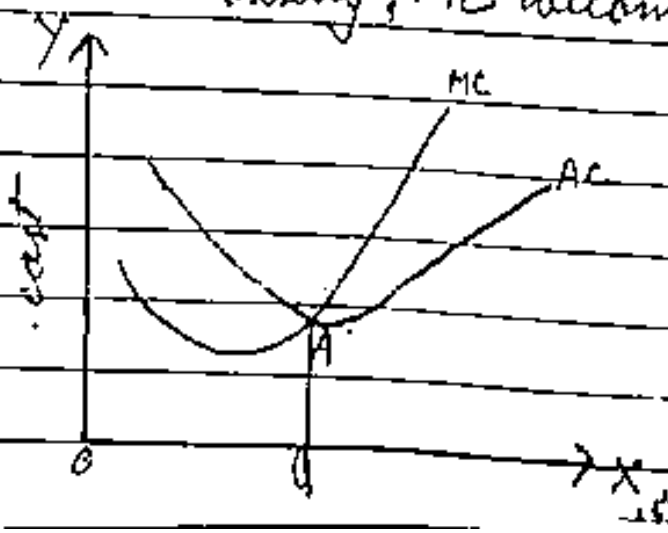
$$AC = \frac{\text{Total cost}}{\text{Total output}}$$

$$MC = \frac{\text{change in total cost}}{\text{change in total output}}$$

2) Initially AC falls, MC also falls but MC starts rising even though AC continues to fall. Hence, in state of falling AC, marginal cost is less than average cost (MC < AC).

3) When AC become minimum, MC cuts AC from below, i.e. minimum average cost is equal to marginal cost (AC = MC).

4) When AC starts rising, MC becomes more



In short:

AC → MC (when MC > AC, AC is rising)
AC → MC (when MC = AC, AC is constant)
AC → MC (when MC < AC, AC is falling)

Q what relationship is there between marginal cost and average variable cost?

Ans →

(Q10) what is opportunity cost?

Ans → Austrian economists modified the concept of 'real cost' and presented the concept of 'opportunity cost'. Resources are limited to unlimited needs needs and time, the production of one goods means the sacrifice of the other.

According to Benham "The opportunity cost of anything is the next best alternative that could be produced instead by the same factors or by equivalent group of factor costing the same amount of money."

~~Hence opportunity cost can be explained with~~

Q11 which cost curve is a rectangular hyperbola and why?

Ans → AFC curve is rectangular hyperbola because total fixed cost remains constant at all points of AFC, i.e., the multiplication between AFC and production quantity at all points of AFC remains constant. It is the reason why AFC declines when production quantity increases. The elasticity of all points of a rectangular hyperbola curve remains unitary.

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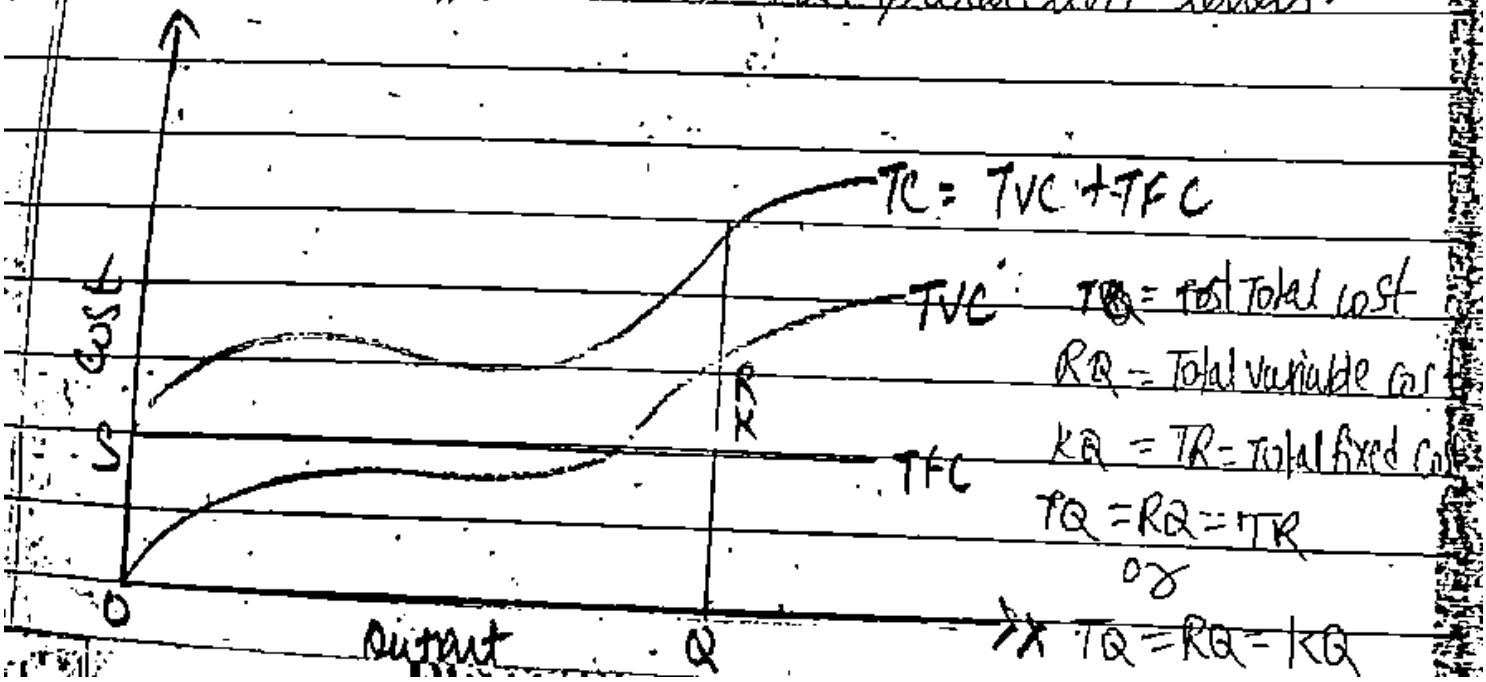
Q Give the relationship between fixed cost, total cost & variable cost.

⇒ Total fixed Cost (TFC):- Total fixed Cost is independent of production size. The producer has to bear the fixed Cost even if production level becomes zero.

Total variable Cost (TVC):- variable Costs are dependent on production level. variable cost increases with increase in production level.

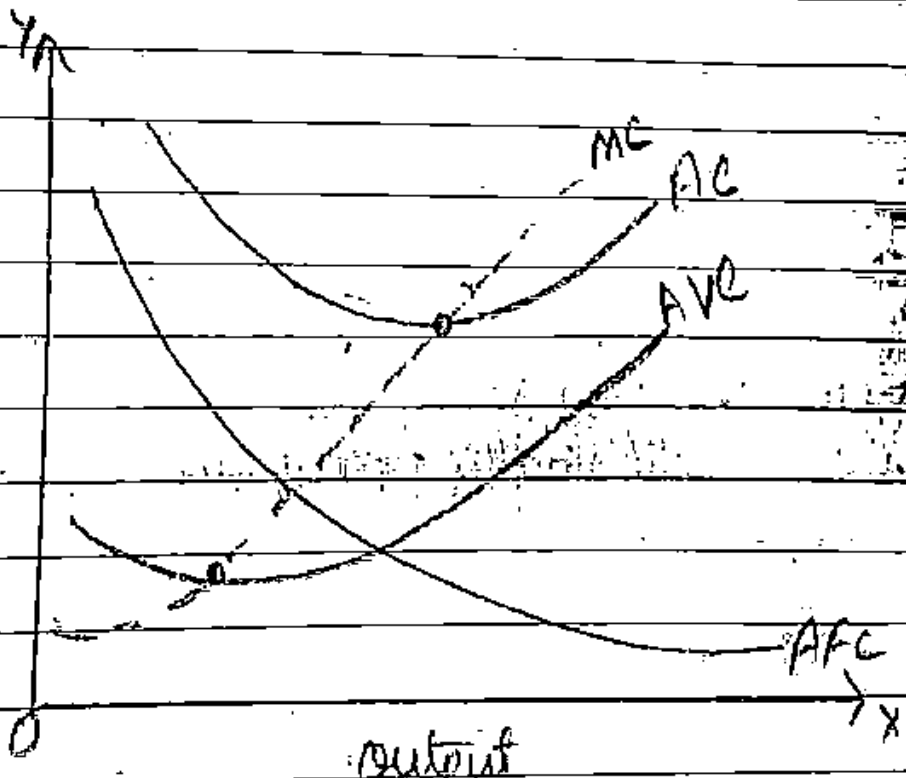
Total cost (TC):- Total cost = Total fixed Cost + Total variable cost

TC becomes equal to TFC at zero production level. TC and TVC lines parallel because the difference between TC and TVC signifies TFC which remains constant at all the production levels.



Q. What do you mean by average cost, average fixed cost & average variable cost? What relationship these three cost share? Explain with diagram.

→ Short-Run Cost Curves: ~~Short-run cost curves~~ are as production increases, the difference between AC and AVC diminishes which signifies the declining AFC with increased production. MC curve cuts AC and AVC at their minimum points from below.



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