Costs of Production

Cost is the expenditure incurred by a firm in the production of a commodity.

Cost Concepts

1.Social cost:-

Social cost is the sum of private cost and external cost. Private cost is the cost incurred by the producer in the production of a commodity. These are the expenses of the producer in buying or hiring factor services. However, when a commodity is produced it may cause damages to the environment in the form of air pollution, water pollution etc. these are the external cost and it is met by the society.

2.Private Cost:-

Private Cost is the actual cost incurred in performing the day today operations of the business, such as the cost involved in the production and consumption of the product. For a firm, all the actual costs incurred, both like Depreciation, Interest, Insurance, Raw Materials, Wage, Rent, Salaries, etc.).

Private costs include the cost incurred in transporting finished goods from the factory to the consumer, the cost of Labour engaged in direct production, Packaging cost, advertising cost, etc.

3.External Cost:-

External costs(Externalities) refer to the economic concept of uncompensated social or environmental effects.

For example, when people buy fuel for a car, they pay for the production of that fuel(Internal Cost), but not for the costs of burning that fuel, such as air pollution.

4.Explicit Cost and Implicit Cost:-

Explicit cost is the expenses actually met by the producer while producing a commodity. Explicit Costs are the payments made by the producer to outsiders who supply labour, raw materials, electricity etc. These are items recorded in the books of account of a firm.

Implicit cost is the opportunity cost of the factor services supplied by the organisation itself. Sometimes, a firm will be running in a building which is owned by the producer himself. Hence, an expense like rent does not arise but a value can be imposed for this. This is implicit cost. Such items will not be recorded.

5.Sunk cost:- Sunk cost is the cost which has already been incurred and cannot be recovered. In other words, it is totally irretrievable. It is not used for future decision making. For example, when an oil well is abandoned, the money spent on it is lost. But the decision to abandon the well is made on the basis of poor cash flows and not on the basis of sunk cost.

Real Cost:- This is the real pain, sacrifices and sufferings involved in the production of a commodity. When a person is involved in the production of a commodity, he sacrifices leisure and he is not able to spend his time with his family. The value of these sufferings cannot be measured in money terms and they are psychological in nature.

<u>Accounting Cost</u>:- It is the money cost that can be recorded in the books of account. This is same as explicit cost. For purposes of accounting only these items are considered, which can be identified, measured and accounted.

Historical Cost:-

It is the cost of an asset, acquired in the past.

Replacement Cost:- Replacement cost is the cost incurred when an asset depreciates and it is replaced with the new asset. ie, replacement cost or expenditure does not increase the total asset. Buying a new machine to replace the old one or buying a new car to replace the old car is an example of replacement cost

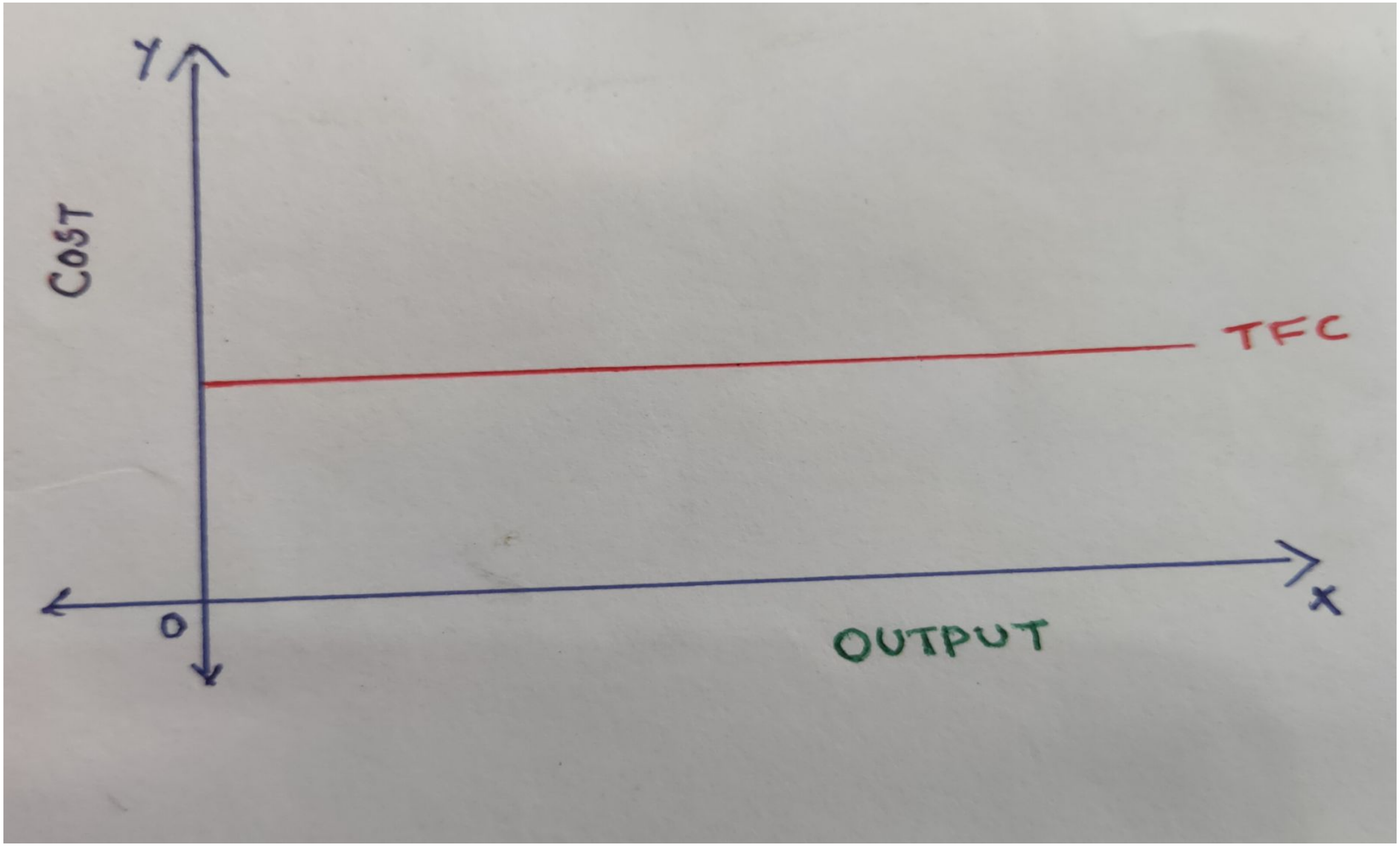
SHORT RUN AND LONG RUN COSTS

Short run costs:-

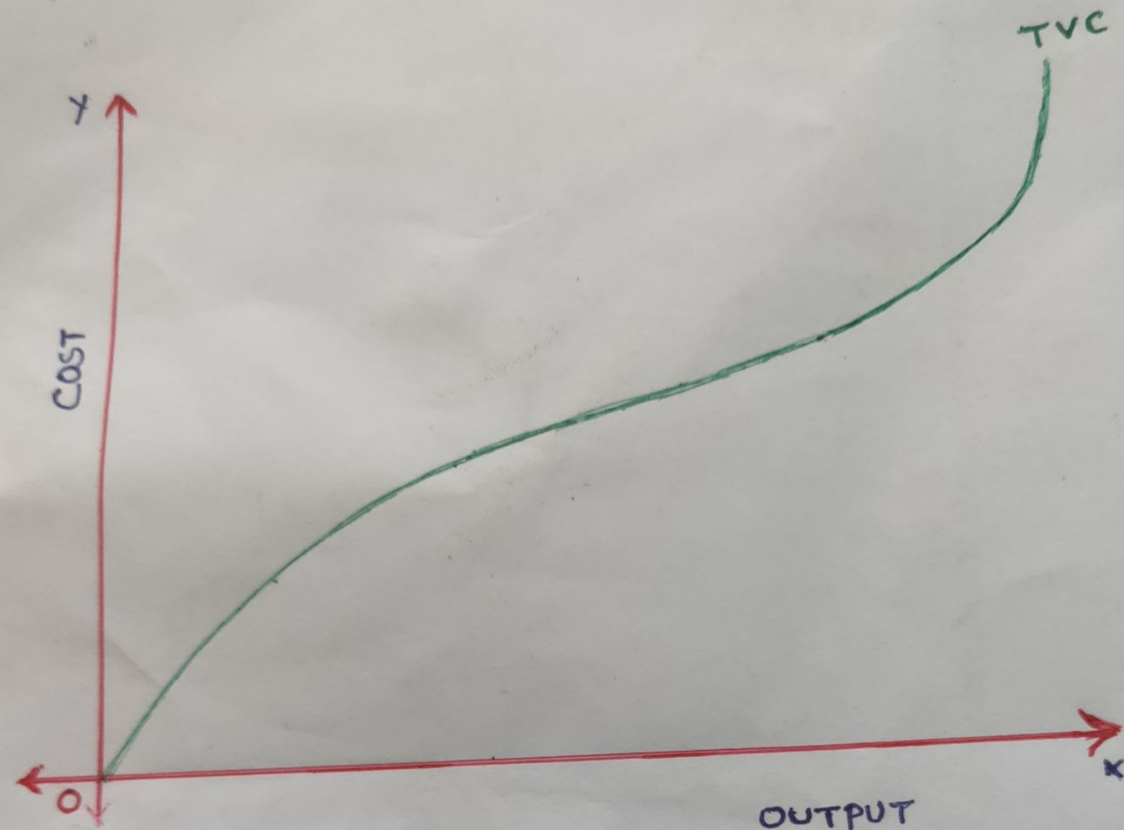
Since in the short run certain factors fixed and certain other factors are variable, a firm incur fixed and variable cost.

(a). Total Fixed cost:- It is the cost which does not vary with the level of output. In other words, it has to be met even at zero level output. eg.rent of factory, interest payment, salary of permanent employees, minimum telephone bill, expenditure on depreciation, property tax etc.

Since Fixed cost remains the same in the short period, TFC curve is a horizontal straight line parallel to the ‘x’ axis.



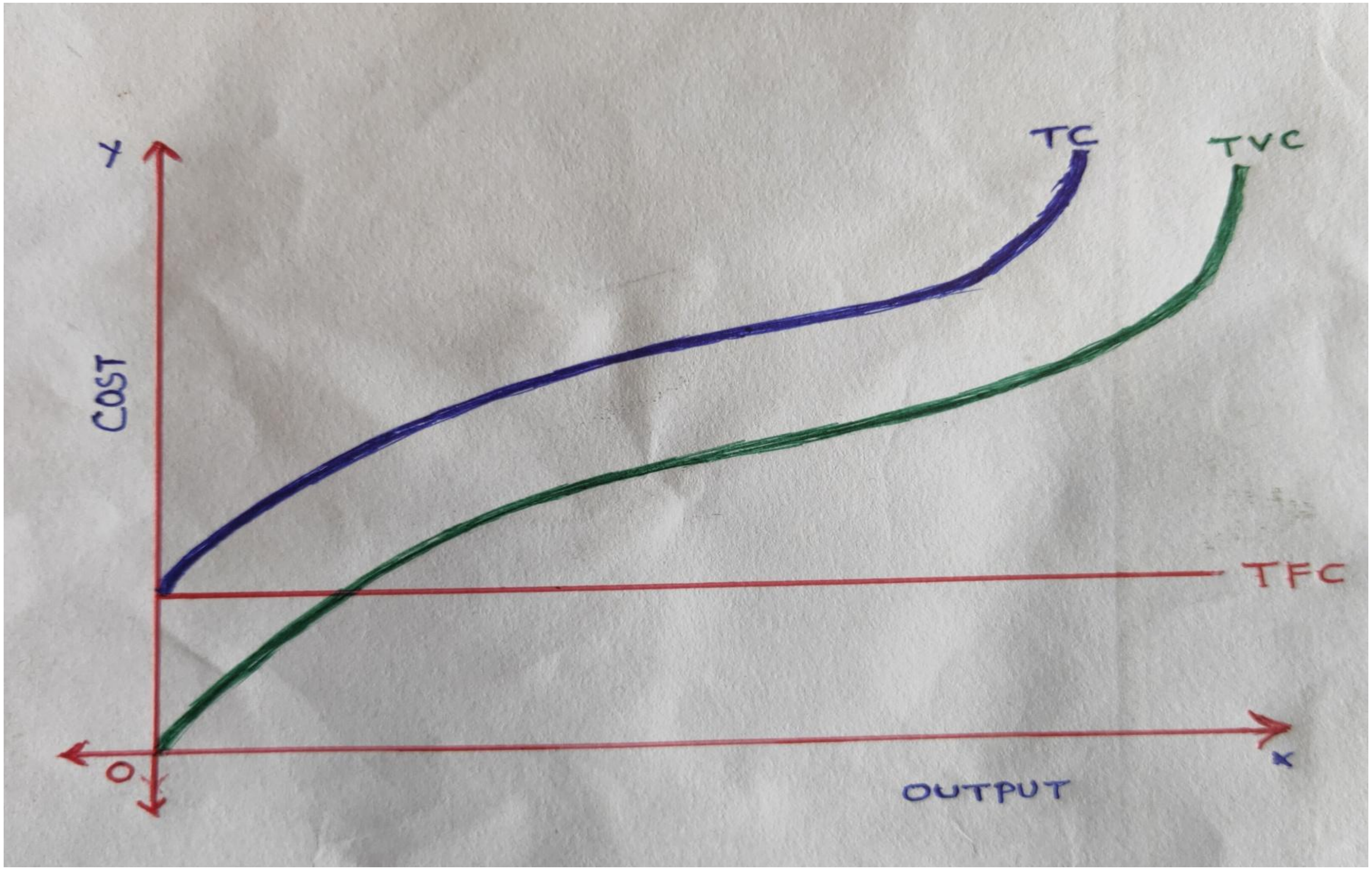
(b). Total Variable Cost:- Variable cost is the cost which varies with the level of output. Ie, when output is zero, variable cost is also zero and as output increases, variable cost also increases. Cost of raw materials, wages of casual workers, transportation charges, fuel charges etc. are examples of variable cost. The TVC is an inverse 'S' shaped curve.



TVC
Y
COST
O
X
OUTPUT

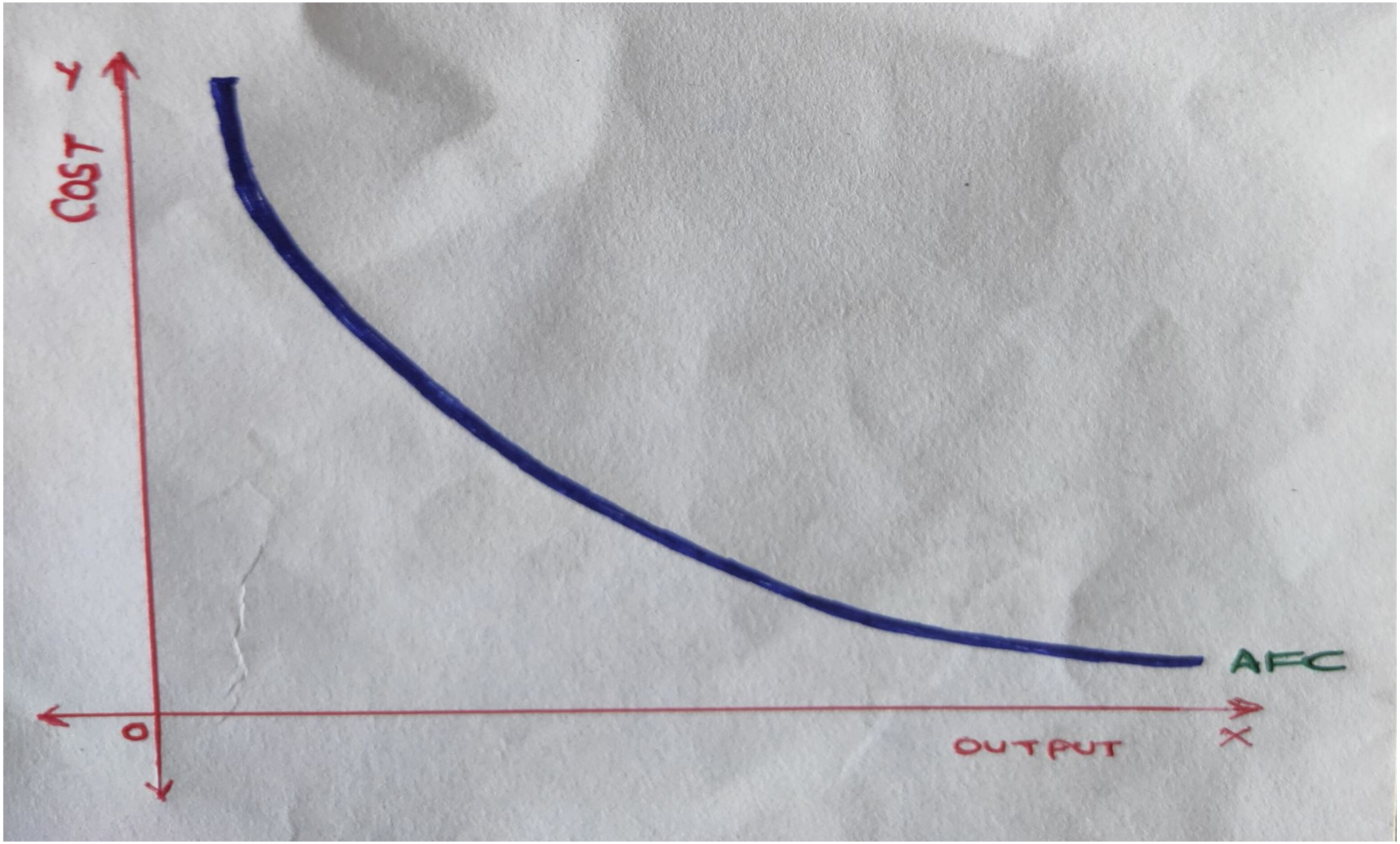
(c).Total Cost:- Total cost is the sum of Total Fixed Cost and Total Variable Cost.

TC=TFC+TVC



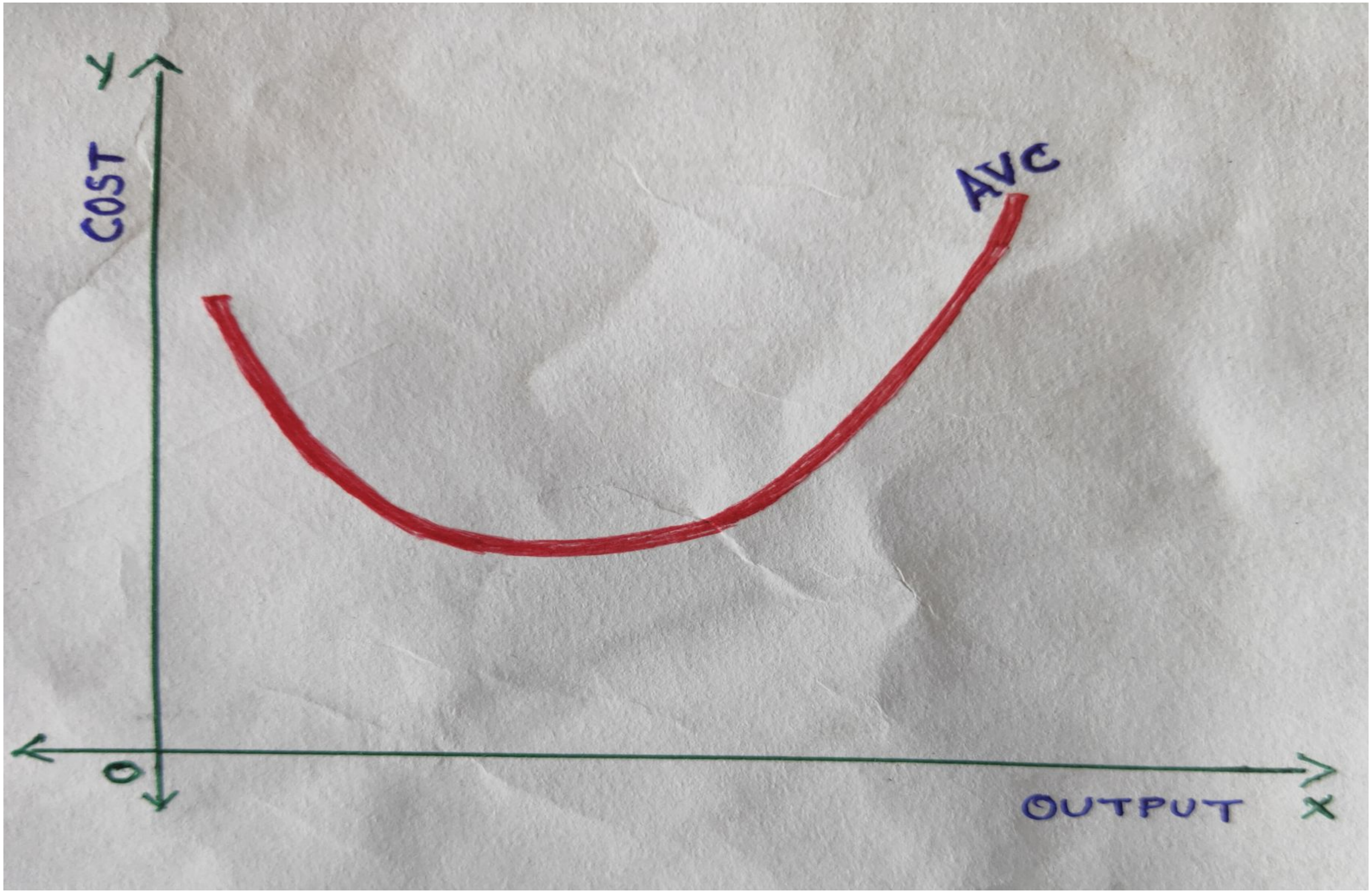
(d). Average Fixed Cost(AFC):- It is fixed cost per unit of output.

AFC=TFC/Q



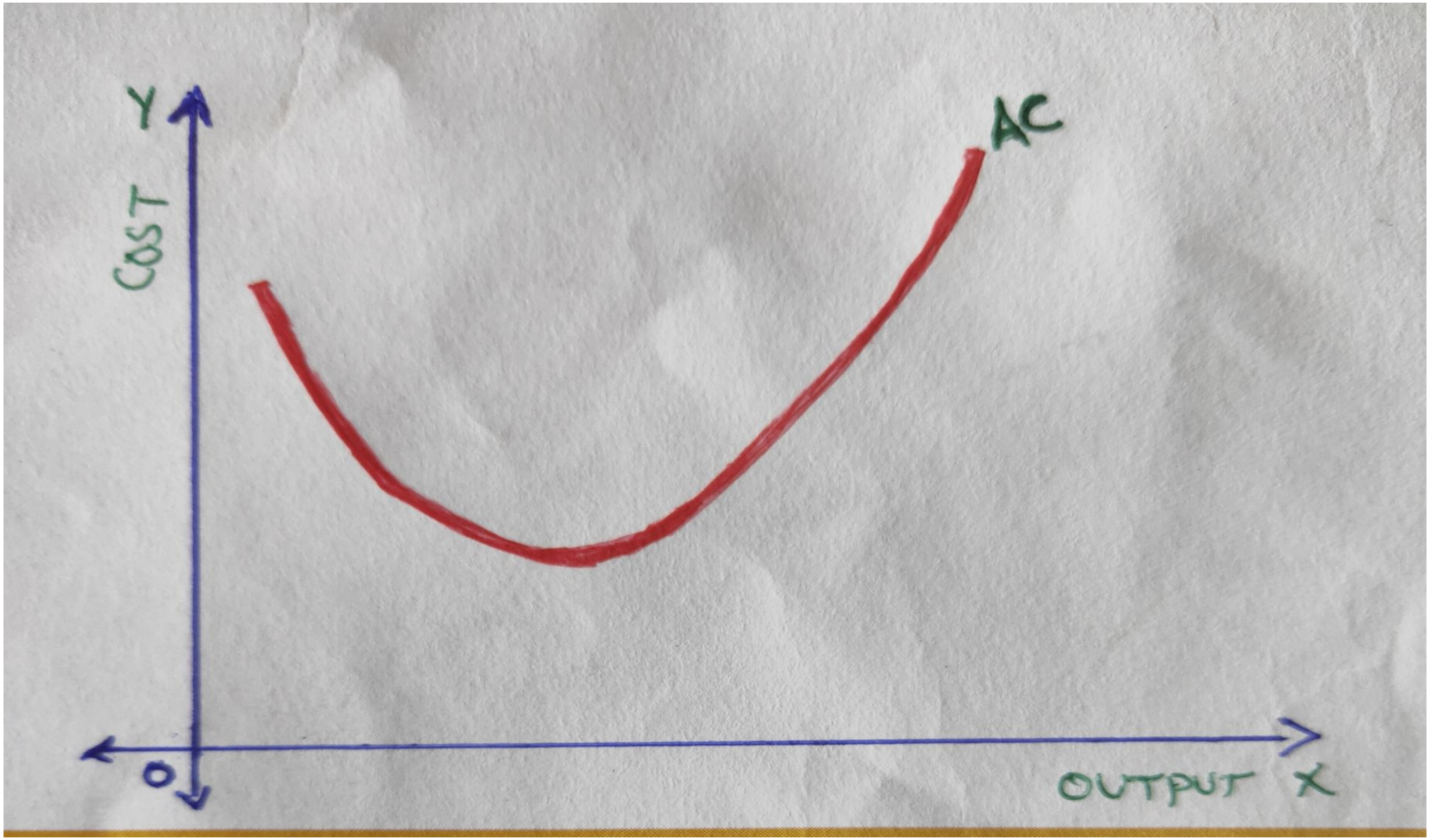
(e). Average Variable Cost(AVC):- It is variable cost per unit of output.

AVC=TVC/Q



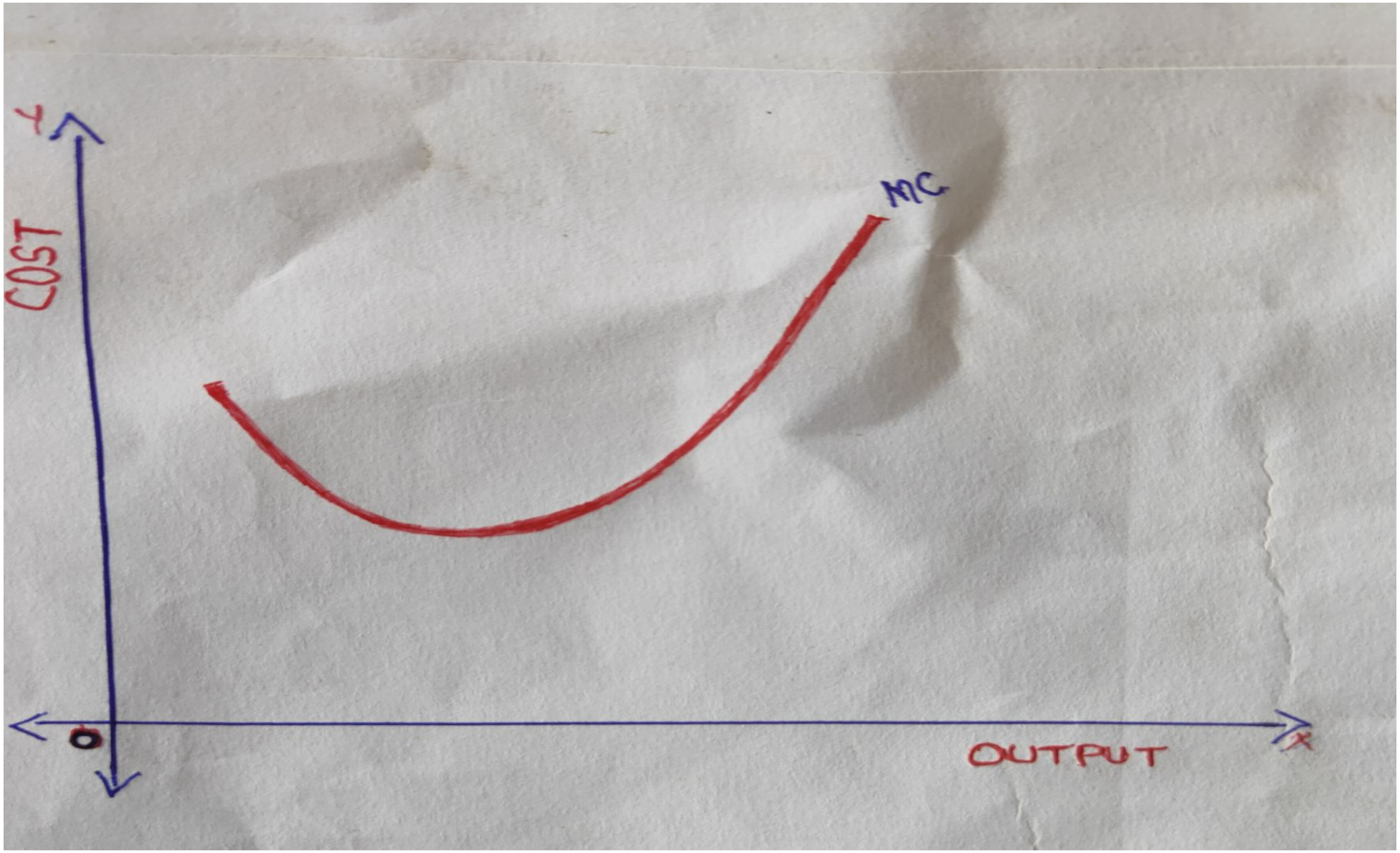
(f).Average Cost(AC):- It is the cost per unit of output produced.

$AC = TC/Q = TFC/Q + TVC/Q$



(g).Marginal Cost:- It is the addition to total cost when one more unit of output is produced

$MC = \Delta TC / \Delta Q$ or $MC_n = TC_n - TC_{n-1}$

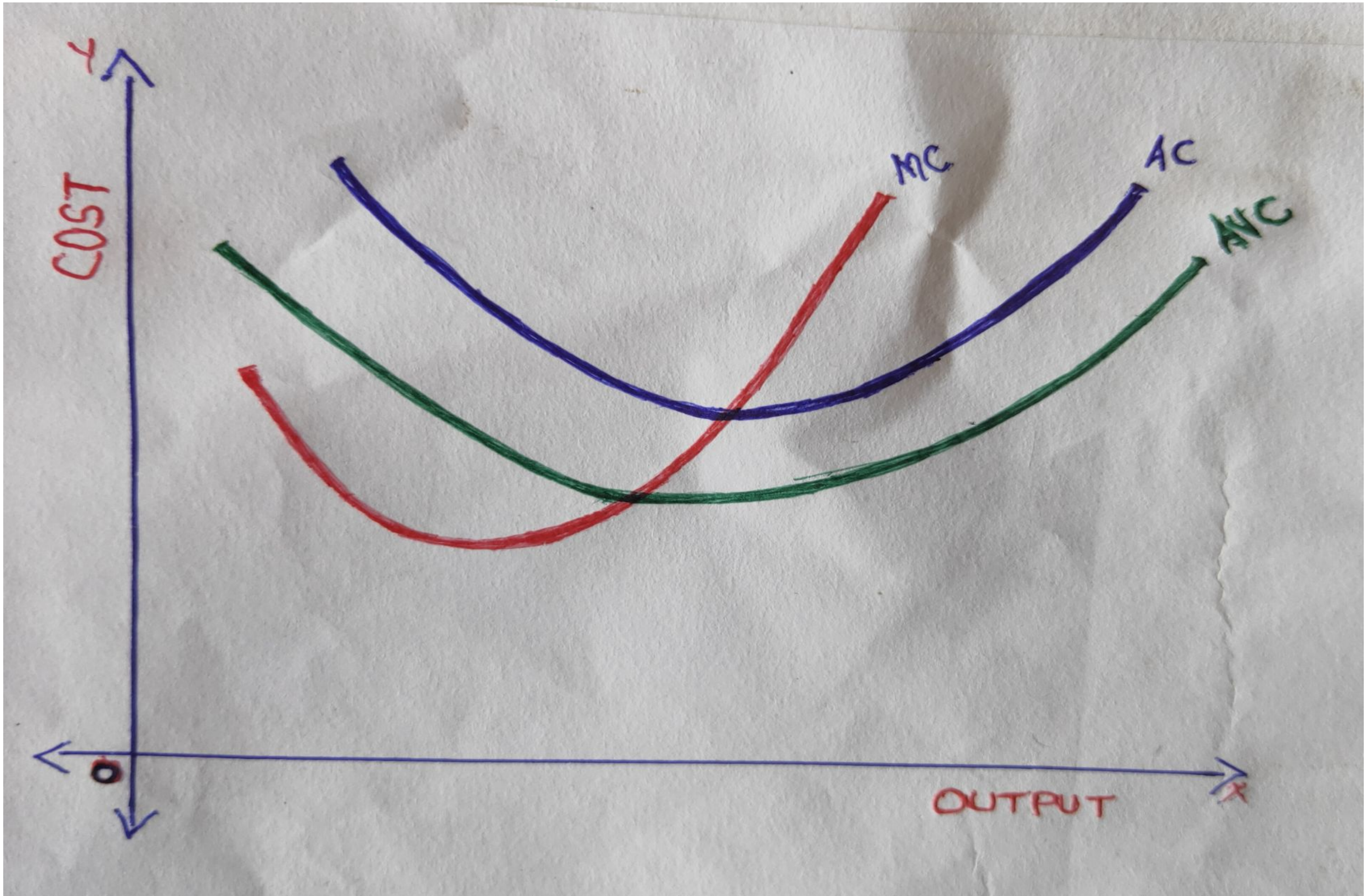


The relation between MC and AC

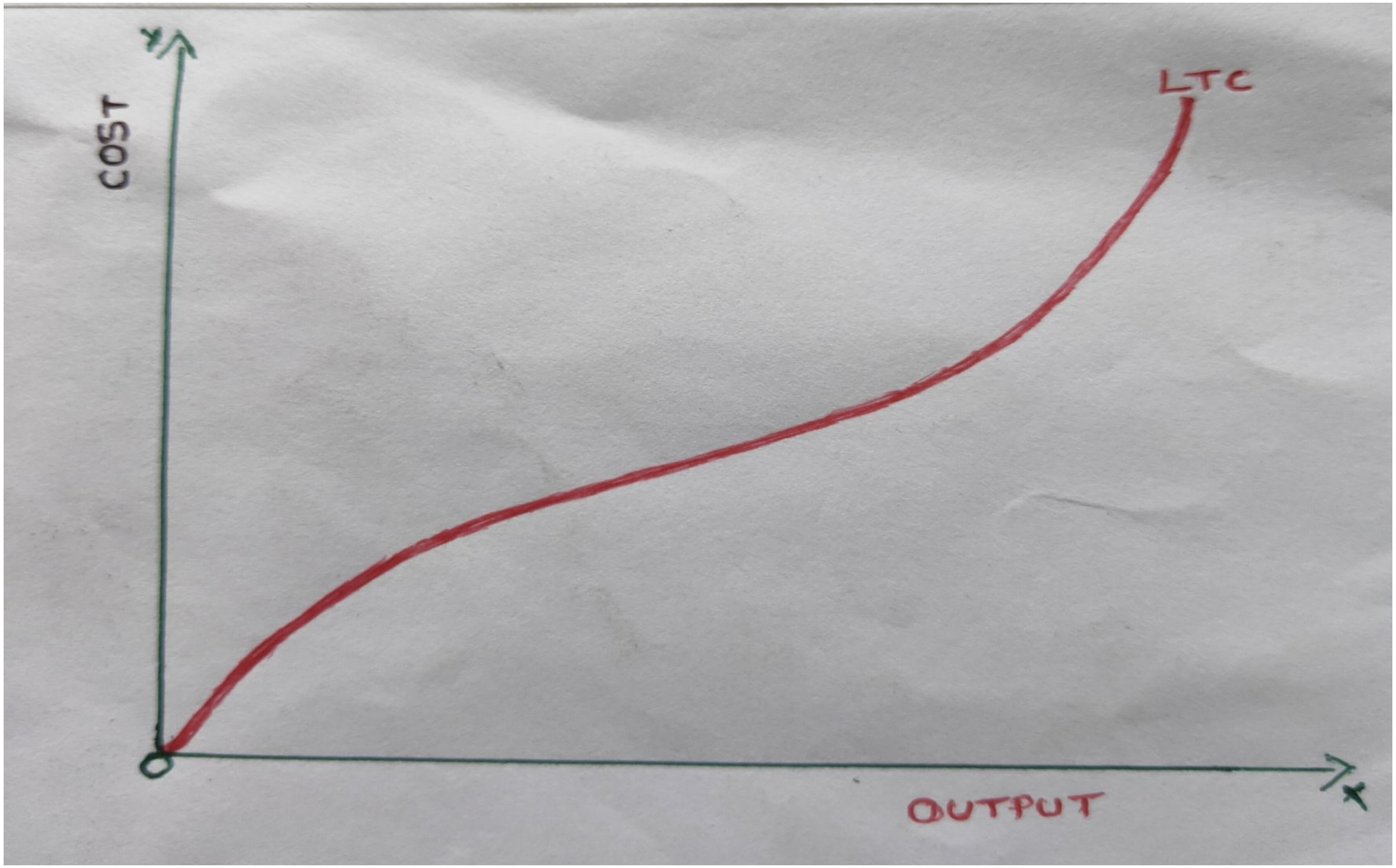
1. When AC falls, MC also falls and lies below AC.

2.When AC is minimum, MC cuts it.

3.When AC increases, MC increases and lies above AC.

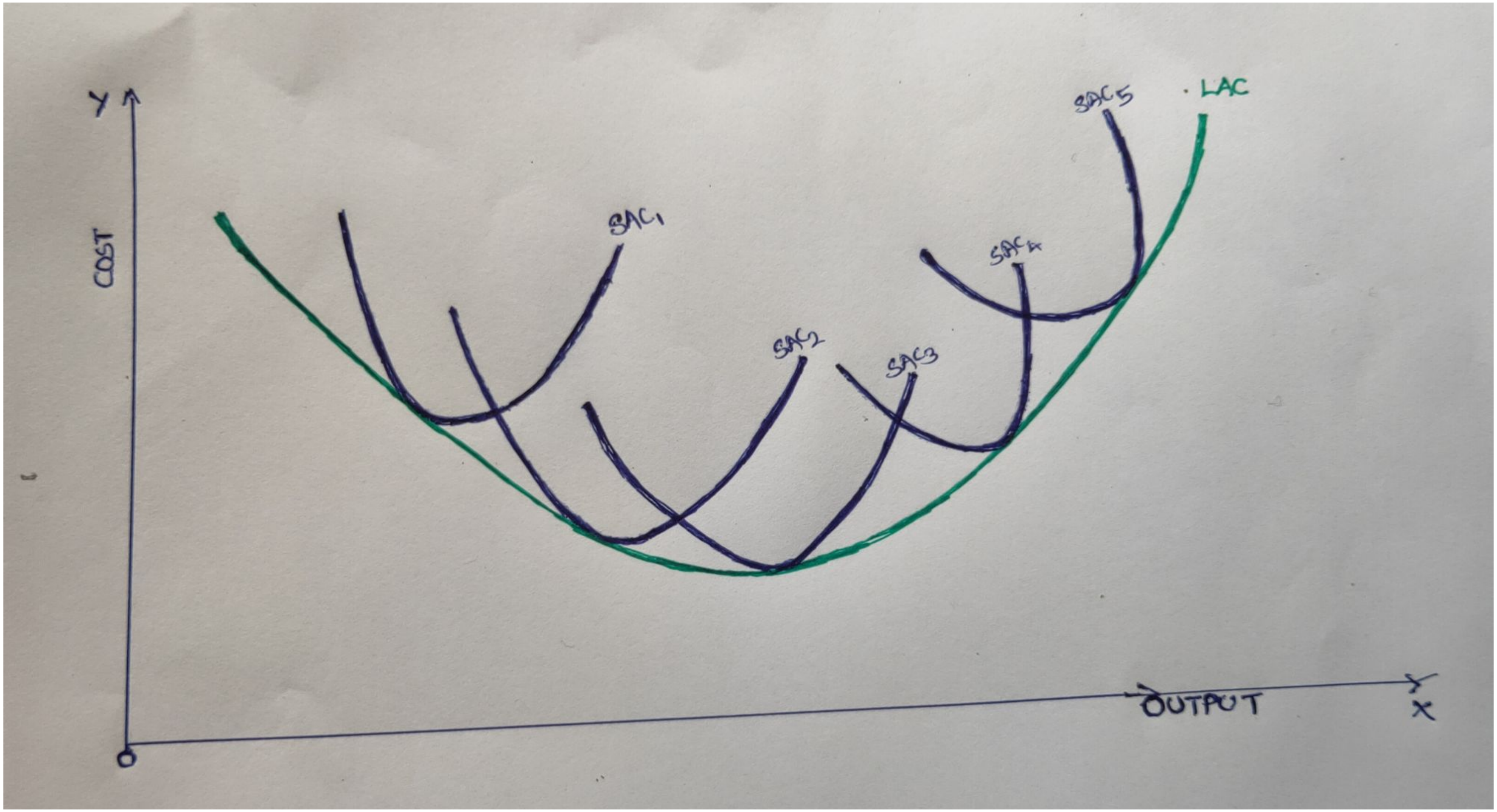


(h) Long run cost:- It is the minimum cost at which a given level of output can be produced in the long run.



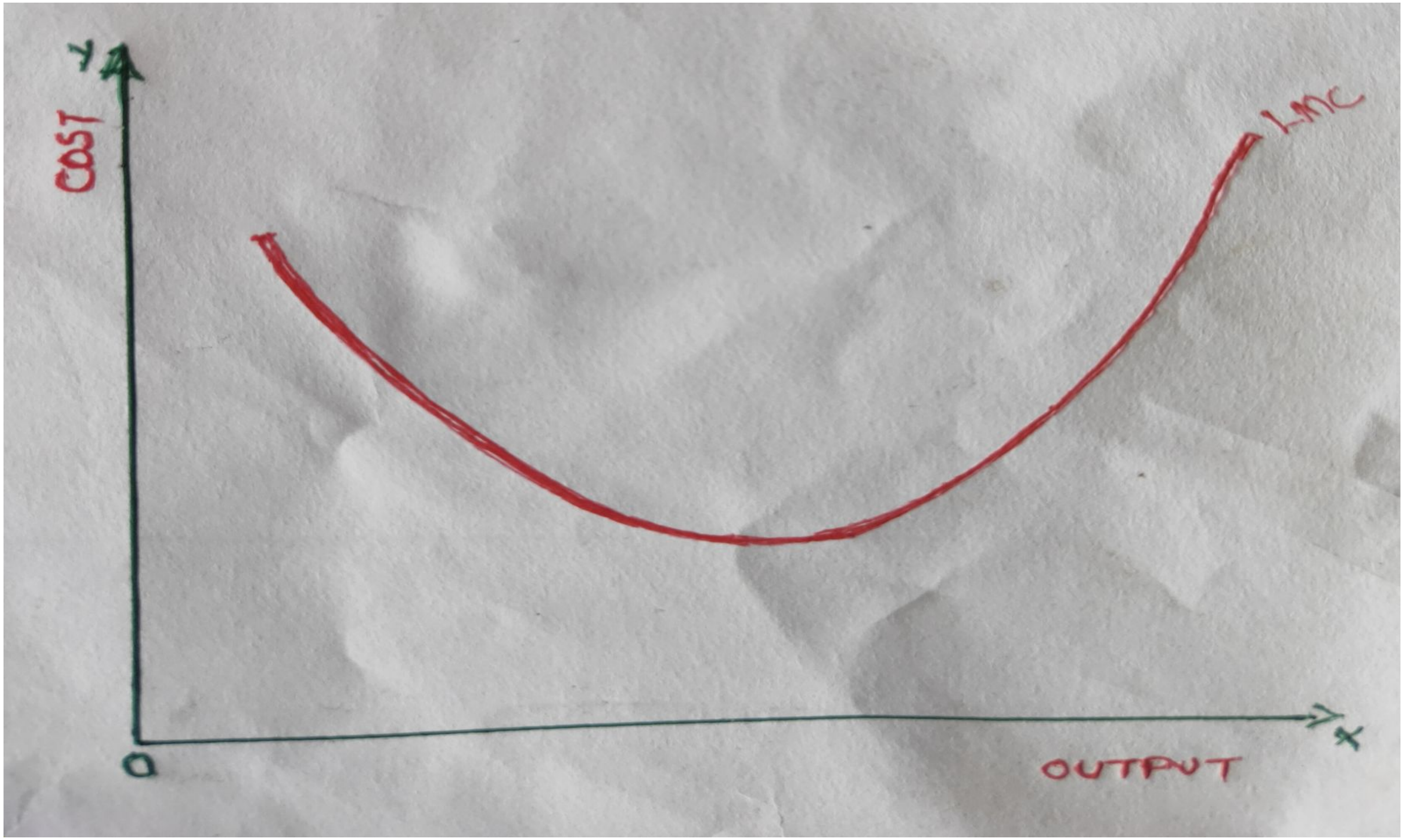
(i)Long run Average Cost Curve:-

LAC is the cost per unit of output in the long run.



(j) Long run Marginal Cost Curve:-

It is the addition to total cost when one more unit of outputis produced in the long run.



REVENUE

Revenue is the income from the sale of output.

(i) Total Revenue:- It is the total receipts from the sale of a given quantity of output.

$TR = P_x Q$ (50=10*5)

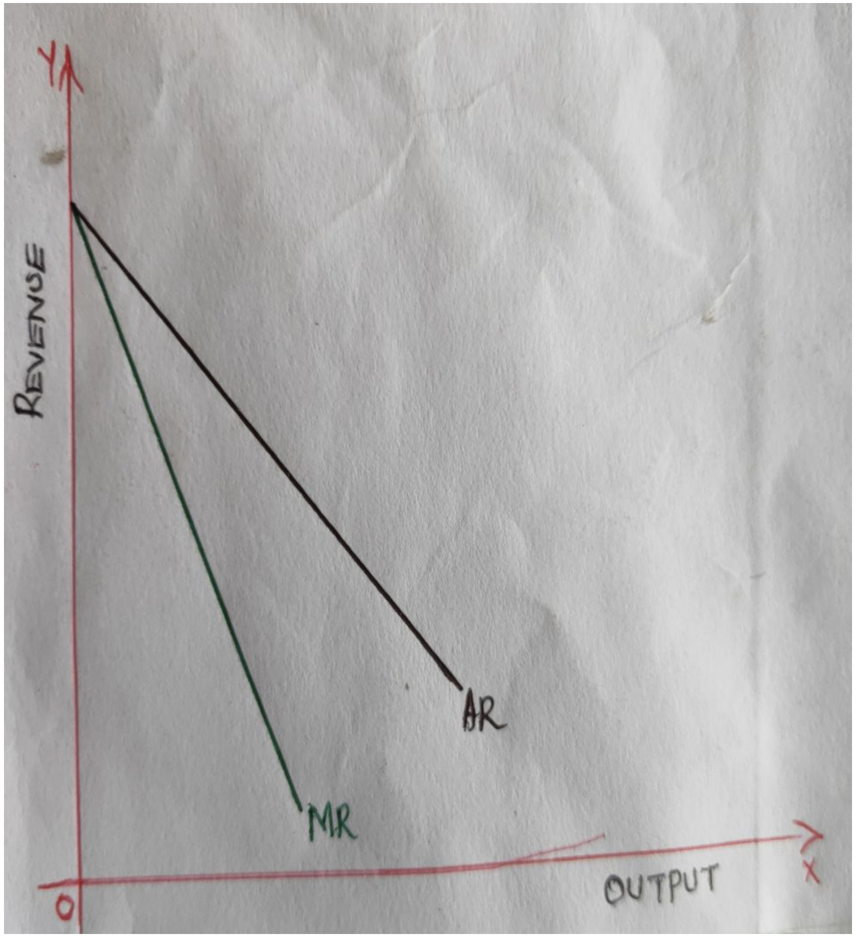
(ii) Average Revenue:- It is the revenue per unit of output sold.

$AR = TR/Q$ or $P_x Q/Q = P$ (10=50/5)

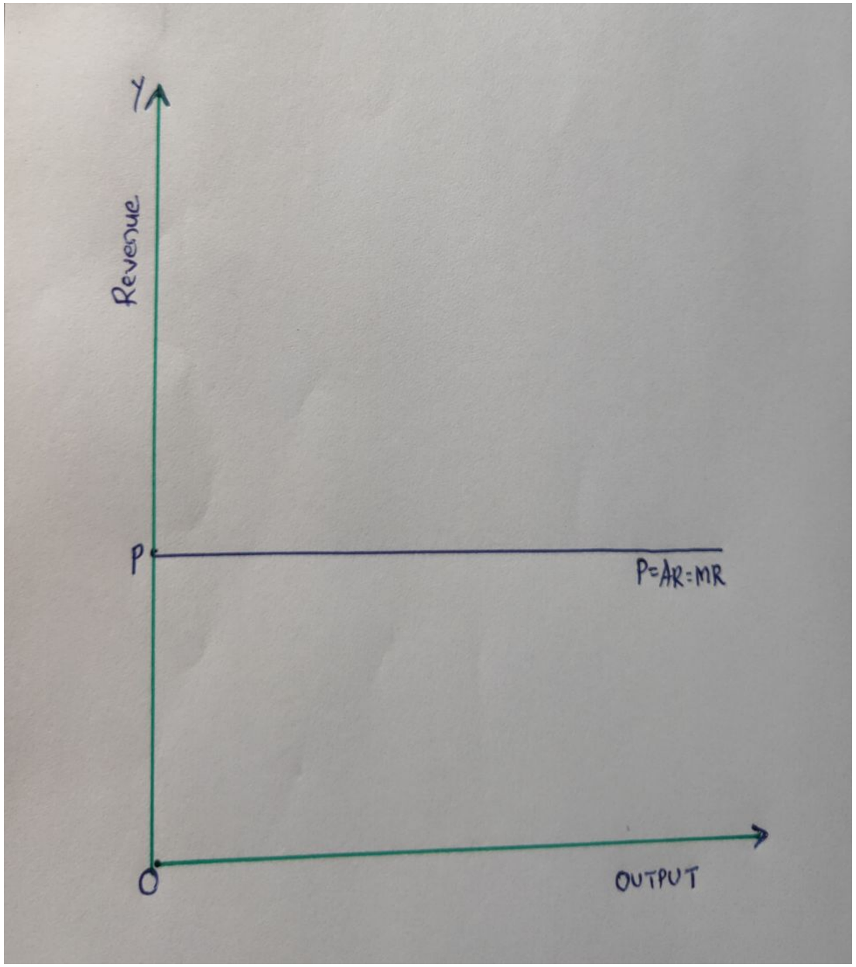
(iii) Marginal Revenue:- It is the addition to Total revenue by selling one more unit of output.

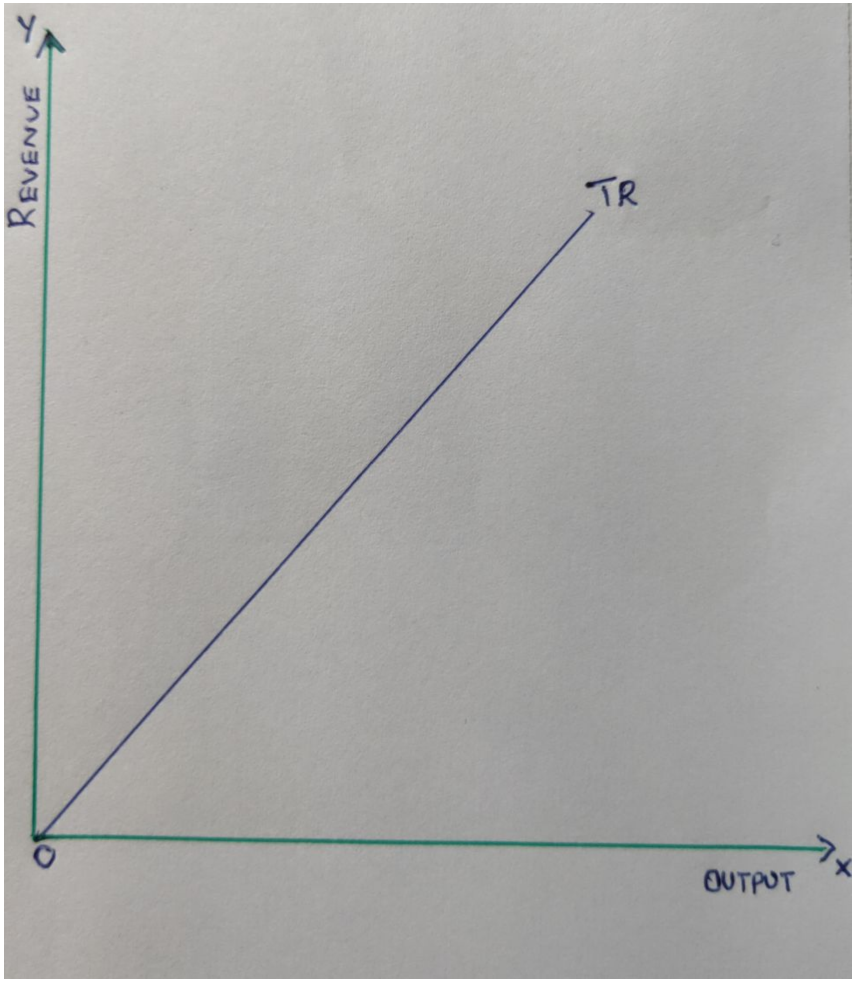
$MR = \Delta TR / \Delta Q$ or $MR_Q = TR_Q - TR_{Q-1}$

TR,MR and AR under Imperfect competition



TR,MR and AR under Perfect competition





Shut Down Point

Price=AVC is the shut down point of the firm.

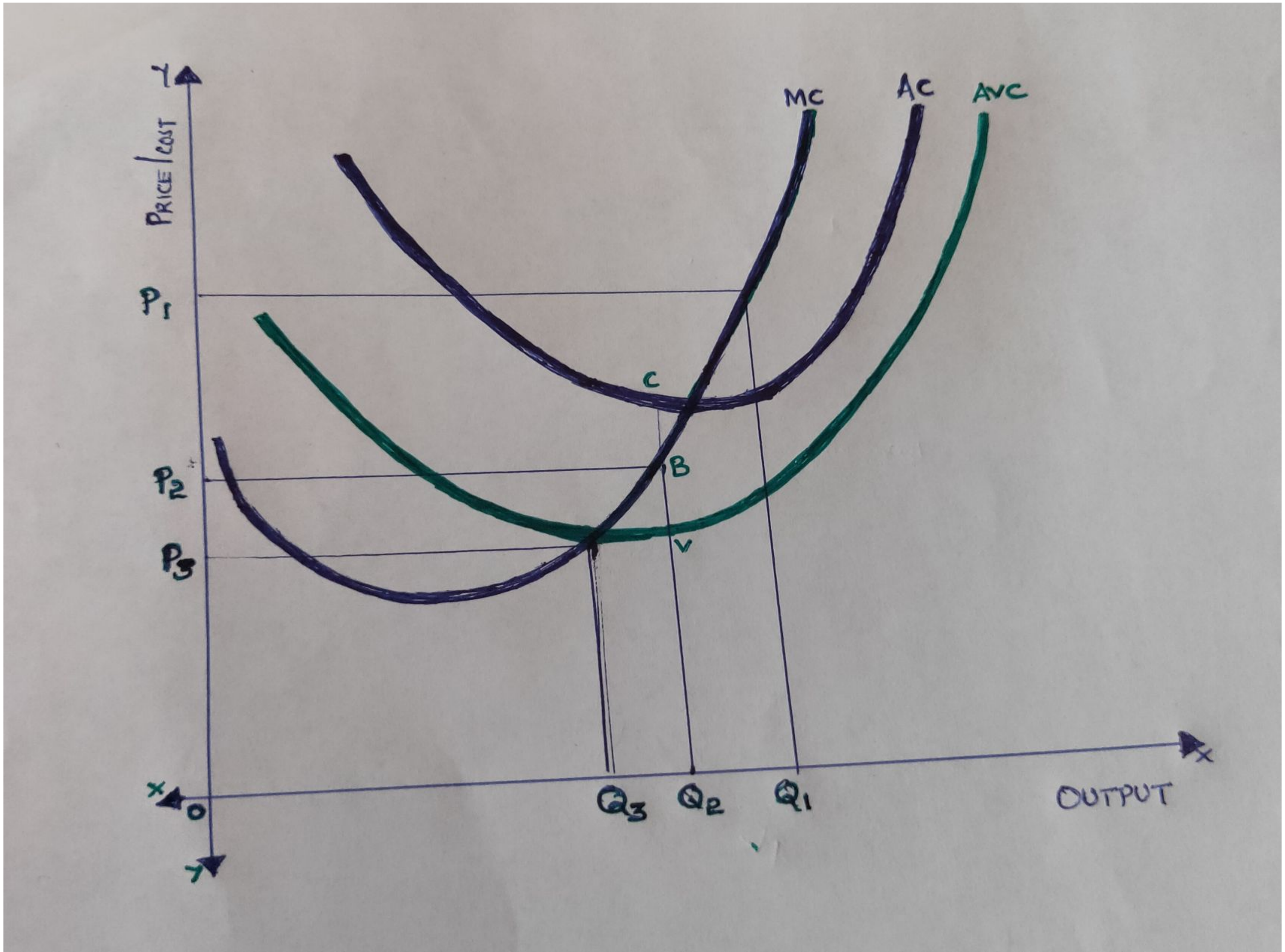
That is the minimum point of the AVC curve.

Suppose the price of a product is less than AC. It is still beneficial for the firm to continue production till price is greater than AVC. Because AC is the sum of AFC and AVC. Therefore, when Price is greater than AVC, it can cover AVC as well as a part of AFC. Once the price equals AVC it may stop production. Therefore, Price=AVC is the shut down point of the firm. That is the minimum point of the AVC curve.

Shut Down Point

Price=AVC is the shut down point of the firm.

That is the minimum point of the AVC curve.



Suppose the price is P1, the firm will supply a quantity (Q1) where price equals Marginal Cost. Since this price is greater than AC, the firm is getting a profit. When price falls to P2, it is less than AC and hence there is a loss(BC). But still it is beneficial for the firm to produce in the short run because when it produces Q2 level of output, the firm is able to cover its Variable Cost(Q2V) and a part of the Fixed Cost (VB). Hence the loss will be BC only. If it stops production loss per unit will be VC. Once the price reaches P3 it may stop production because the firm is able to cover its variable cost only. Thus the supply curve of a firm is that portion of the MC curve which is over above the AVC curve(or the shut down point).