Final :

COSTS OF PRODUCTION.

→ economic profit.   → cost & why cost ?

→ normal profit.   → explicit cost.

→ law of diminishing returns.   → implicit cost.

→ short run and long run cost   → accounting profit

★ why costs exist ?

  Cost exist due to shortage of resources and alternatives.

  If scarcity fades, cost declines.
  └→ we have Salt, which is less expensive. It's expensive in India!

★ Explicit Cost : Direct cost, visible, clear, evident.

  e.g : Taxes, bills, monitory payments → school fee,
                                          Salaries, wages,
                                          groceries, installments

★ Implicit Cost : It's opportunity cost /economic   repairs.
                  cost or indirect cost.

  e.g :

  Carpenter — if → self employed → income fluctuates
         if
         └→ working for someone   income depends
            he will endup with Rs. 60,000 on seasons.
            a month.   (Forgone rent)

Every asset has   ↓
a direct & an   secured income doesn't
indirect cost.   depend on season.

  direct → maintenance. | Total cost = explicit + implicit cost. |

  indirect → can be given on
             rent to earn something.

Date:

★ PROFITS

Profit = Total Revenue - Total cost.

$$TR = P \times Q$$

$$TC = \text{explicit cost} + \text{implicit cost}.$$

★ Accounting Profit : Total revenue - explicit cost.

$$AP = TR - EC$$

★ Economic Profit :

$$EP = TR - (EC + IC)$$

$$\boxed{AP > EP}$$

★ Normal Profit : The oppurtunity cost of doing a
business doing a business. It's the break even
situation of the firm.

Total Revenue = Total Cost.

why normal profit is treated as an implicit cost?
because, this is the initial investment, we haven't made any
profit of it.

★ Law of Diminishing Returns :

Assumptions: i) Technology & agriculture land are fixed resources.

a) Variable resources is labour/worker.
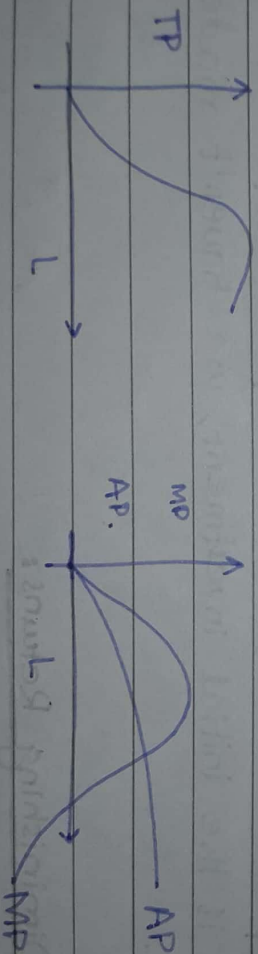
3) Shorter time period so expansion cannot
take place.

Statement:

" In order to increase total product when successive units
of available resource are added to the fixed resource,
the total product increases to a certain point but
the marginal product declines."

Units of labour	Total product	Marginal product.	Average product.		
0	0	—	—		
1	10	10	$^{10}/_1$ 10	Marginal = $\dfrac{\Delta TP}{\Delta L}$	product
2	25	15	$^{25}/_2$ 12·5		
3	45	20	$^{45}/_3$ 15		
4	60	15	15	Average = $\dfrac{TP}{\text{No. of labours}}$	product
5	70	10	14		
6	75	5	12·5		
7	75	0	10·7		
8	70	-5	8·75		

TP

L

MP
AP.

AP

MP

Cost and types :

:- $T_c = T_{vc} + T_{fc}$ | T_c = Total cost .
| T_{vc} = Total variable | Marginal cost
| | ↓
| cost . | cost of producing
| | additional output .
| | $MC \propto \dfrac{1}{additional\ output}$

:- $A_{TC} = \dfrac{T_c}{Q}$ | T_{FC} = Total fixed cost
| A_{TC} = Average total cost
| Q = Quantity /output .

:- $A_{vc} = \dfrac{T_{vc}}{Q}$ | $A_{vc} = \dfrac{T_{vc}}{Q}$ = 9M = 9A . 9

:- $A_{FC} = \dfrac{T_{FC}}{Q}$ | A_{FC} = Average fixed cost = 2A
| Mc = Marginal cost .

:- $Mc = \dfrac{\Delta T_c}{\Delta Q}$

Q_2 | $AP = TR - EC$
| $EP = TR - (EC + IC)$

Ans : $TR = 72000$.

Explicit cost	Implicit cost .
12000	4000
5000	15000
20000	3000
37000	22000

$AP = 72000 - 37000 = 35000\ \$$

$EP = 72000 - (37000 + 22000) = 13000\ \$$

PURE COMPETITION (5)

Date: ___

Assumptions :

1) Large no. of buyers & sellers.
2) Product is homogeneous.
3) Firms are price takers.
4) Easy entrance and exit for the firms.
5) Market is perfect without government interveution.
6) Demand is perfectly elastic.

$$P = AR = MR = D.$$

where

$$AR = TR/Q \text{ and } MR = \Delta TR/\Delta Q.$$
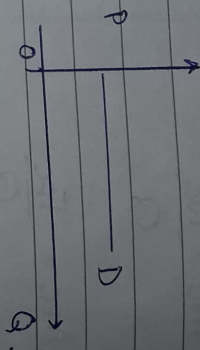
* Application in the real world :

1) This model is applicable in stock exchange.
2) It can be applied in agriculture.
3) Applicable on communication networks.

Q : How firm can maximise the profit ?

① SHORT RUN MAXIMIZATION APPROACH
   i) Total revenue & total cost.
   2) Maginal revenue & marginal cost.

① Total Revenue & Total Cost Approach.

a) AR = ATC ⟹ Break even or zero economic or Cost of operating in
or TR = TC ⟹ even point. profit business.
or normal profit or Opputunity cost of
business.

6

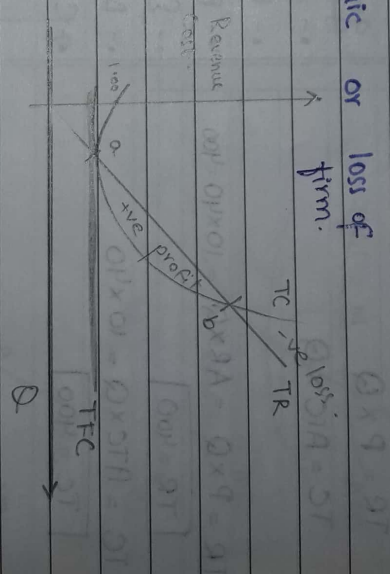• — Area b/w a and b represents profit (+ve)

∴ Intersection at

a & b represents zero economic profit.
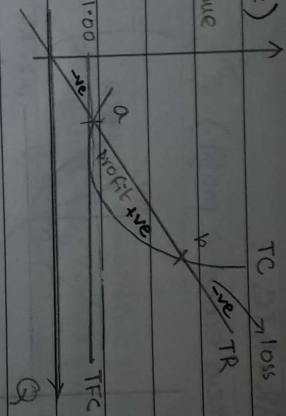
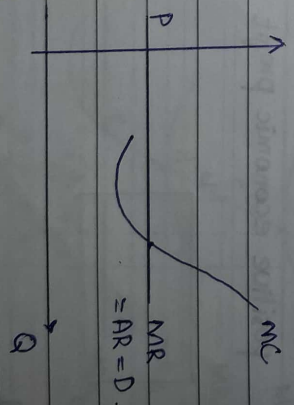b) AR > ATC $\Big\}$ positive economic or super normal
   TR > TC $\Big\}$ profit.

c) AR < ATC $\Big\}$ negative economic or loss of
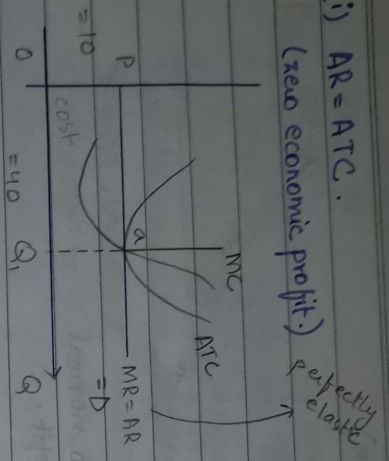   TR < TC $\Big\}$ profit.   firm.

② Marginal Revenue & Marginal Cost :

• — Intersection of MC and MR determines price, output, cost & revenue area.

• — Very much applicable in monopoly and monopolistic competition.

(i) AR = ATC.

(zero economic profit.) perfectly elastic

$TR = P \times Q$

$TC = ATC \times Q$

• $TR = P \times Q = AR \times Q = 10 \times 40$

$\boxed{TR = 400}$

• $TC = ATC \times Q = 10 \times 40$

$\boxed{TC = 400}$
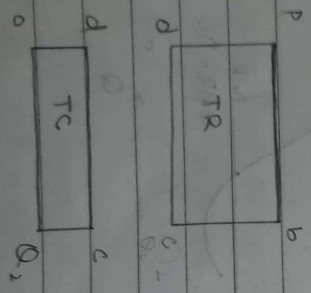
(ii) $AR > ATC$

positive economic profit

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graph description :

• :- Identify MR and MC intersection

• - MR curve should be above ATC curve

• - Extend ⊥ from MR—MC intersection.

• - Determine TC & TR areas (label)

• - Assume cost & revenue values.

• - Calculate areas.

Q : which curve
is supply curve in
pure competition ?

Q: Employ MR—MC approach to
deposit loss and shutdown in
pure competition ?

AVC < ATC
AR < ATC   (loss)
AR < AVC   (shutdown)

Date:___

P ↑
MC
ATC
AVC
→ Q
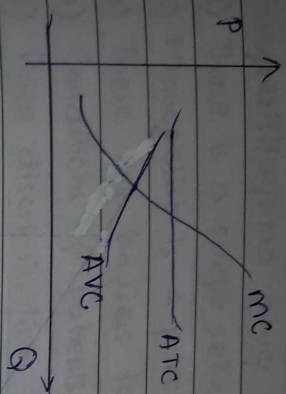
A purely competitive firms
→ exhibits only normal profit at
long run.

Qu. How do firm behave in long run?

P ↑
MC
ATC
→ Q

i) AR < AVC (shutdown)

ATC
AVC
M
MR
shutdown
Q_{S_1}
→ Q

i) firm should shutdown because
of it's instability to cover the
opportunity cost.

ii) Losses are very huge.

P ↑
MC
a — MR₁
b — ATC — MR₂
c — MR₃
AVC
d — MR₄
e — MR₅
shutdown
0   Q_5 Q_4 Q_3 Q_2 Q_1 → Q

points:
a → +ve profit
b → breakdown
c → loss.
d → indifferent
e → shutdown.

**iii) Firms produce acc. to
consumers preferences.**

**iv) Industry in longrun behaves
as a constant cost industry.**
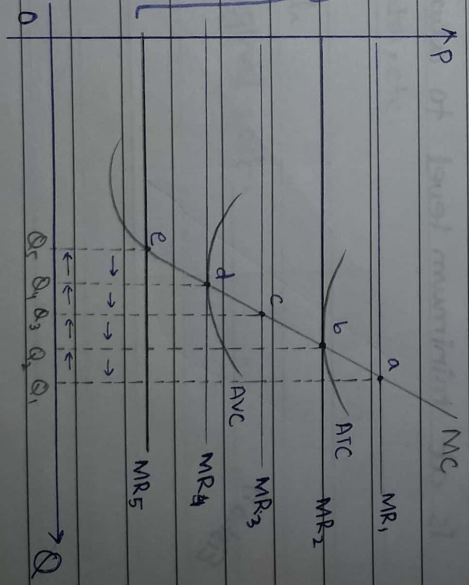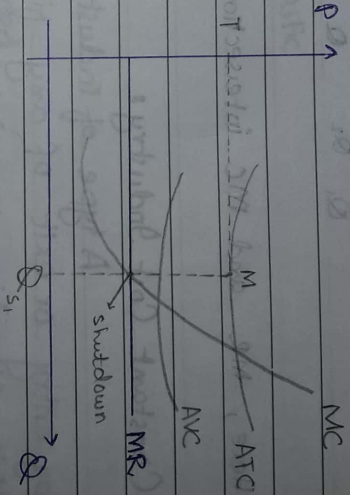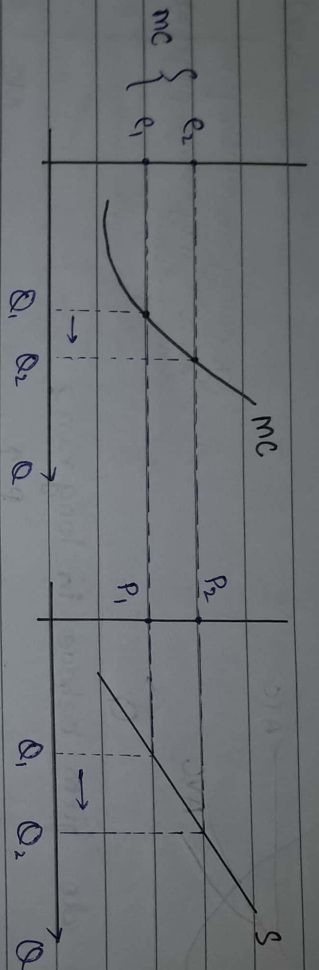
MR → demand curve.
MC → supply curve.

Q3: Which curve is supply curve in pure competition?

— Here, MR and MC intersection is equilibrium in competitive market

* Constant Cost Industry:

    A type of industry which is not affected by entry or exit of any firm. The resource prices in this situation remains constant and the price changed is at minimum level to always support consumers.

Q: Work on demand and supply curve of constant, increasing and decreasing cost industry?
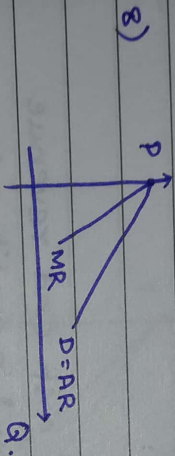
Eisha:)

PURE MONOPOLY

Chaacteristics :

1) There is a single seller.

2) Monopolist is a price maker.

3) There are barriers to entry and exit.

4) Conditions of patents and copyrights exists.

5) Price discrimination is exercised.

6) Monopolist can buy out any other venture/business, especially in the case of bilateral monopoly.

7) Demand curve is relatively inelastic

$$D = AR.$$

8)

9) Economies are widely experienced.

e.g :- Railway   :- K-electric

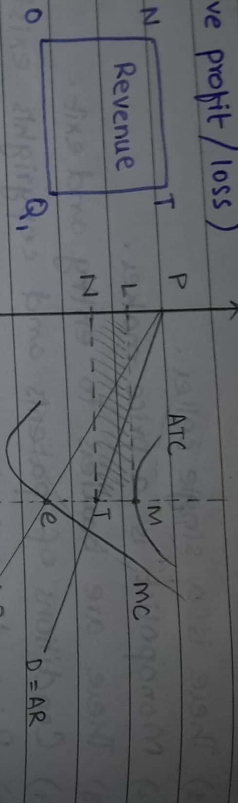   - WAPDA   :- Toyota, Daihatsu, etc.

(2) Profit maximisation approach.
   Marginal revenue and marginal cost.

1) AR > ATC   profit

2) AR < ATC   loss

3) AR = ATC   (breakeven)

4) AR = AVC   indifferent

5) AR < AVC   shutdown.

① AR < ATC   (-ve profit / loss)

$TR = AR \times Q$

$TR = ONT \times Q_1$

$TC = ATC \times Q$

$\boxed{-ve \ (loss)}$
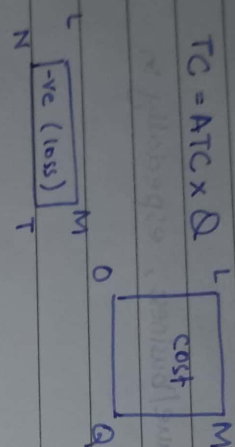
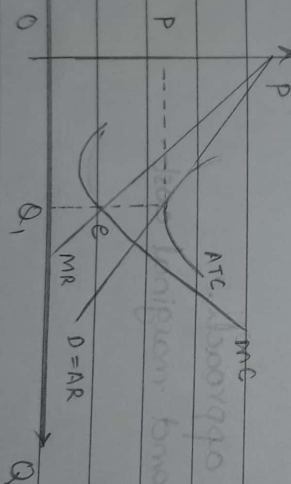$\rightarrow TR = ONTQ_1$ | so, profit = TR - TC

$TC = OLMQ_1$ | = -ve

$P = LMNT \ (loss$

Method to draw demand and MR curve :
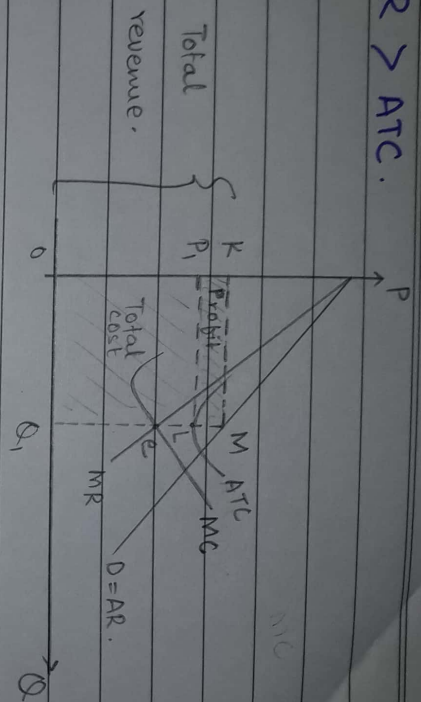
1) Introduce MC curve.

2) Locate to intersection of marginal cost and revenue

3) Extend ⊥ to cost curve and demand to quality axis.

4) Total cost area $\boxed{}$ Total Revenue $\boxed{}$
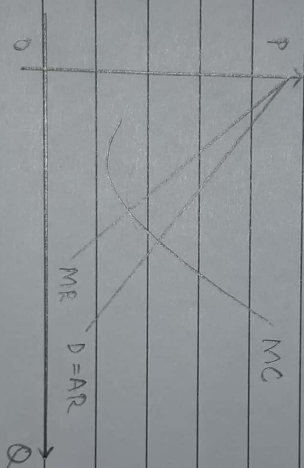
② AR = ATC .

(break even condition).

(12)

③ AR > ATC.

Total
revenue.
{ K ——— M   ATC
  P₁ [Profit]   MC
       e
  Total L
  cost
  0   Q₁   Q

④ AR = AVC

P   MC
                D = AR
         MR
O   Q

(last lecture
missing).