ANSWER NO #01 (0)

AC= 697.77

AC = 25,000 91.3 + 150 + 3(91.3)

Q: 91.3

(b)

· Monthly output for this firm. would be [91.3 units]

ANSWER no#02	
140,000 - 10,000 p = 80,000 t 5,000 p	
140,000 -80,000 = 10,000p + 5,000p	
60,000 = 15,000p	
60,000 = p	
14=p 08 p=4	
Statement:	
be [4], and yes, this is the long-run equilibrium.	

$$\frac{d(Avc)}{dQ} = 0, \quad \frac{d_2(Avc)}{dQ^2 2} > 0$$

$$\frac{d(Avc)}{dQ} = -12 + 2Q = 0, \quad \frac{d_2(Avc)}{dQ^2 2} = 2 > 0$$

$$-12 + 2Q = 0 \quad \text{i.e.} \quad \boxed{Q} = 6$$
• Hence, at $Q = 6$ Avc in at minimum.

Similarly, At minimum,
$$\frac{d(Mc)}{dQ} = 0, \quad \frac{d_2(Mc)}{dQ^2 2} > 0$$

$$= -24 + 6Q = 0 \quad \text{i.e.} \quad \boxed{Q} = 4$$
Hence, if is noted at $Q = 4$, Mc is minimum.

(b)

At minimum level,

Statement:

· It is calculated that both AVC and MC carries a minimum rate at Q=6 and Q=4. att other level of output.

· AVC and MC both are higher, which means the "Curre will be in the shape

(C) when Q=6 AVC = 60-12Q+Q"2"

AVC = 60 - 12(6) + 6(6) AVC = 60 - 72+36

AVC = 24

now, calculating MC

MC = 60 - 24Q + 3Q"2 Mc = 60 - 24(6) + 3(6)(6)

Mc = 60-144+108 MC = 24/

(b) At minimum level, d(AVC) = 0, d2(AVC) >0 d(Avc) = -12+2Q=0, d2(Avc) = 2 >0 -12+2Q=0 i.e Q=6 · Hence, at Q=6 AVC in at minimum. Similarly, At minimom, $\frac{d(mc)}{d\alpha} = 0 \qquad , \qquad \frac{d_2(mc)}{d\alpha^2} > 0$ = -24 +6Q=0 , = 6 >0 - 24 + 6Q = 0 i.e [Q = 4]

Hence, it is noted at Q=4, MC is minimum.

Answer no#03

(a)

$$Tc = 100 + 60Q - 12Q^2 + Q^3$$

Hence, Total Fixed cost = 100 Total Variable cost = 60 Q-120"2+Q"3

- MC=d(TC) = 60-24Q+3Q^2

(b)
Qd= 140,000 - 10,000 (4) = 100,000
Qs = 80,000 + 5,000 (4) = 100,000
· It is noted that each firm produces
1,000 units, hence.
1,000 = [100] firms
statement: Number of loo firms are
in this industry when it is
comes in the long-run
equilibaium.

ANSWER NO#04

$$(Q=5)$$
 and $(Q=10)$

Profit =
$$-0.04(5)^3 + 0.9(5)^2 - 6(5) - 5$$

= $[-17.5]$
For $Q = 10$
Profit = $-0.04(10)^3 + 0.9(10)^2 - 6(10) - 5$

or
$$Q = |0|$$

Profit = $-0.04(10)^3 + 0.9(10)^2 - 6(10) - 5$
= $[-15]$

Statement:

- · As according to this calculation, we found but that the firm would be operating at loss. Hence, the firm should not produce this level of
- Evidence shows that by selling at \$4 ber unit from generates negative profit.

ANSWER NO# OS

TC = 1500 + 15Q - 6Q2 + Q3

· Fixed cost is the constant of total

cost, constant of TC is 45,000 1,500

Hence, Fixed Cost (FC) = 1,500

AFC= FC

· It is understood that total fixed cost (TFC) is constant irrespective of

the quantity broodured.

Total fixed cost at 1,000 units and 500 units are 1,500

Total Fixed Cost at,

Q=1000 is Fc=1,500

Q = 500 is Fc = 1,500

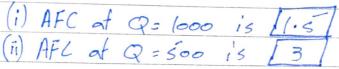
AFC = FC

· at Q=1,000 AFC = 1500

AFC = 1.5 /

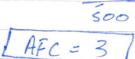




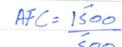






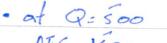












(C)

TVC is the variable part of total

TVC= TC-FC= 150-602+03

AVC = TVC = 15 - 69+92

Q AC = TC = 1500 + 15-6Q+Q2 Q Q

MC = dTC = 15 - 1200 + 3022

at Q = 50

TVC = 15 (50) - 6(50) + (50)

TVC = 750 - 15,000 + 125,000

now, we find AVC. AVC= TVC AVC = 110,750 = 2,215 now, we find AC AC = 1500 + 15 - 6 (50) +502 AC = 2,245 now, we find MC

 $MC = 15 - 12(50) + 3 - (50)^{2}$ IMC = 6,9157At so units of output:

· IVC= 110,750 · AVC= 2,215

- AC = 2,245- MC = 6,915