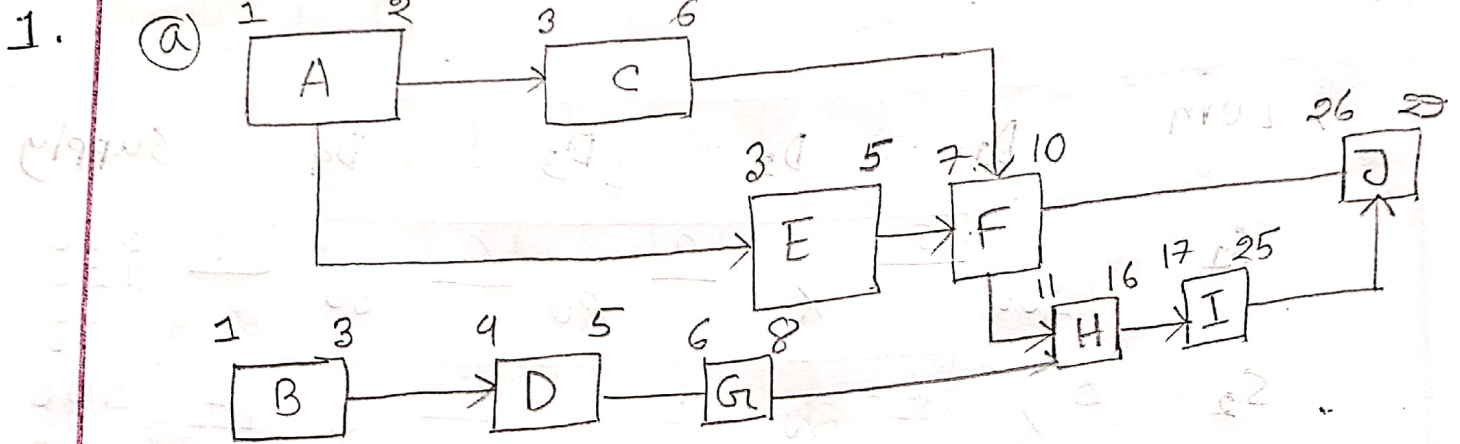


Name: Pyansa, Sabikunnahan Talukder
Id: 18-36368-1



∴ So the total project duration is 29 days.

(b) Possible path

(1st) A - C - F - J

(2nd) A - E - F - J

(3rd) A - C - F - H - I - J

(4th) B - D - G - H - I - J

(5th) A - E - F - H - I - J

Critical Path

(max) A - C - F - H - I - J

B - D - G

A - E

c) If Activity "E" requires two days extra to finish then time will be delayed because "F", "H", "I", "J" depends on "E". That's why time will be delayed and for that reason also cost will be increased.

2.

Here is given,

$$\text{Fixed cost, } (FC) = \$10,500$$

$$\text{Variable cost } (V) = \$0.8$$

$$\text{Retailer Price, } R = \$1.2$$

$$\begin{aligned} \text{i*) Break even, } Q &= \frac{\$10,500}{\$1.2 - 0.8} \\ &= 26250 \text{ unit/month} \end{aligned}$$

$$\text{ii*) Total Revenue, } TR = \$25,000$$

$$\begin{aligned} \therefore Q &= \frac{TR}{R} \\ &= \frac{25,000}{1.2} \end{aligned}$$

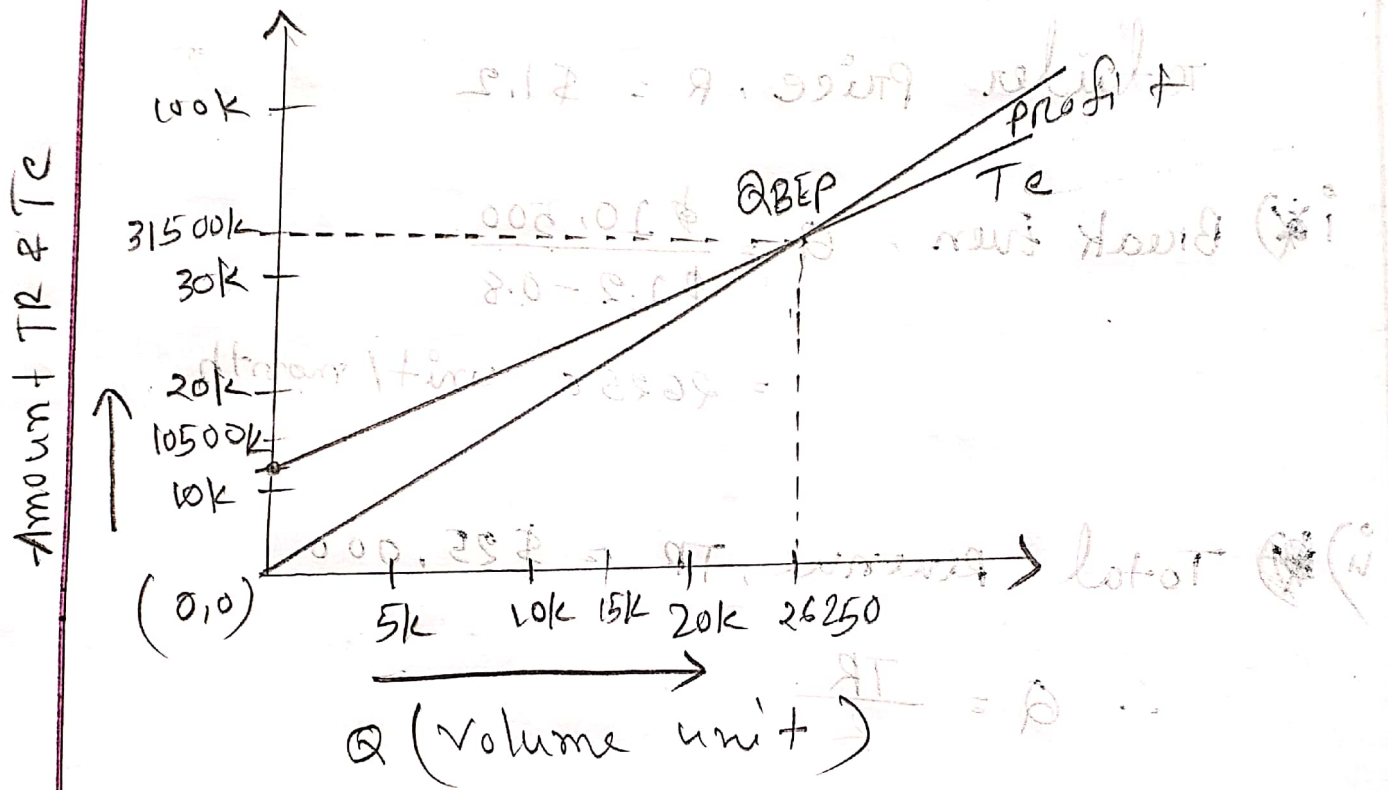
$$= 20833.33 \text{ unit/month.}$$

$$\begin{aligned} \text{ii*) Total cost} &= \text{fixed cost} + \text{variable cost} \\ &= \text{fixed cost} + (Q \times V) \\ &= 10,500 + (26250 \times 0.8) \\ &= \$31,500 \end{aligned}$$

$$\begin{aligned} \text{Total Revenue} &= Q \times R \\ &= 26250 \times 1.2 \\ &= \$31,500 \end{aligned}$$

$$TR \rightarrow (x, y) = (0, 0) \quad (26250, 31500)$$

$$TC \rightarrow (x, y) = (0, 10500), (26250, 31500)$$



$$\text{Total cost} = \text{Fixed cost} + \text{Variable cost}$$

$$TC = 10500 + (3.0 \times Q)$$

$$TR = 1.2 \times Q$$

$$1.2Q = 10500 + 3.0Q$$

$$1.2Q - 3.0Q = 10500$$

$$-1.8Q = 10500$$

$$Q = \frac{10500}{-1.8}$$

Name: Pyaasa, Salikunnaher Talukder
Id: 18-36368-1

3.

Lem	D ₁	D ₂	D ₃	D ₄	Supply
S ₁	100 5	X 8	20 6	80 4	200 120 20 0
S ₂	X 10	X 12	100 8	X 12	100 0
S ₃	X 5	200 14	X 8	X 11	200 0
Demand	100	200 0	120 20 0	80 0	

$$\begin{aligned}
 \text{Total cost} &= (100 \times 5) + (20 \times 6) + (80 \times 4) + (100 \times 8) \\
 &\quad + (200 \times 14) \\
 &= 4540 \text{ tk.}
 \end{aligned}$$