

# MST- 2

## Solution

Ans-1 Break-even point (in units)= Fixed cost/contribution

$$= 200,000/25= 8000 \text{ units}$$

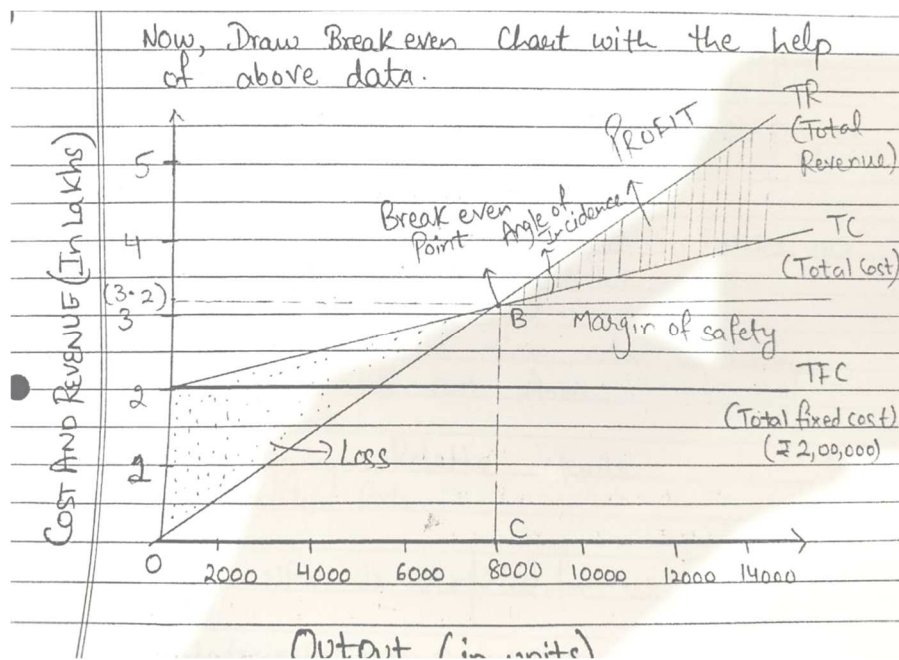
2 marks

Break-even point in money or sales= Fixed cost/contribution X selling price

$$= 200,000/25 \times 40= \text{Rs } 320,0000$$

2 marks

Break even chart



4 marks

Ans- 2

Comment- Marginal productivity of labour refers to change in total revenue by putting one more labourer, keeping all other factors constant". Supposing, there are 10 labourers working in a firm and its total revenue is Rs 200. If 11 labourers are put to work then total revenue goes up to Rs 215. It means the marginal productivity of the 11<sup>th</sup> labourer is Rs. 215-200= Rs 15. An employer will not pay more wages to the labourers than his marginal productivity, otherwise he will suffer loss. So, a profit maximizing firm always employs labourer equal to its marginal product.

2 marks

## Assumptions of Theory

1. **Perfect competition in product market-** There is perfect competition in the market where produced goods are sold. Accordingly, marginal revenue and average revenue of
2. **Perfect competition in factor market-** It means that each firm will have to pay the prevailing price of the factor. It also implies that at the prevailing factor price, a firm can hire whatever amount of the factor it wishes to hire.
3. **Variable proportion type production function-** It is assumed that production is of Variable proportion type. In other words output can be increased by changing the factor ratio.
4. **Possibility of factor substitution-** It is technically possible to substitute different factors for each other. It means capital can be substituted for labour and vice-versa.
5. **Divisible factor-** Different factors of production can be divided into small units to facilitate substitution of each other.
6. **One variable input-** The firm uses only one variable input. Other factors are fixed during the period being considered.

6 marks

Ans- 3

Cash Inflows of A	10% discounting factor	Present value
Rs 190,000	0.909	1,72,710
Rs 170,000	0.826	1,40,420
Rs 1,45,000	0.751	1,08,895
Rs 105,000	0.683	71,715
Rs 85,000	0.621	52,785
Rs 70,000	0.564	39,480
Rs 55,000	0.513	28,215
Total present value		614,220

3 marks

Cash Inflows of B	10% discounting factor	Present value
Rs 180,000	0.909	1,63,620
Rs 170,000	0.826	1,40,420
Rs 1,35,000	0.751	1,01,385
Rs 95,000	0.683	64,885
Rs 80,000	0.621	49,680
Rs 65,000	0.564	36,660
Rs 60,000	0.513	30,780
Total present value		5,87,430

3 marks

Net Present value of A= Total present value- Initial investment  
Rs 6,14,220-Rs 3,95,000  
= Rs 2,19,220

Net Present value of A= Total present value- Initial investment  
Rs 5,87,430- Rs 3,60,000  
= Rs 2,27,430

Project B is desirable because it's net present value is greater than project A