Break-Even Analysis (BEA)

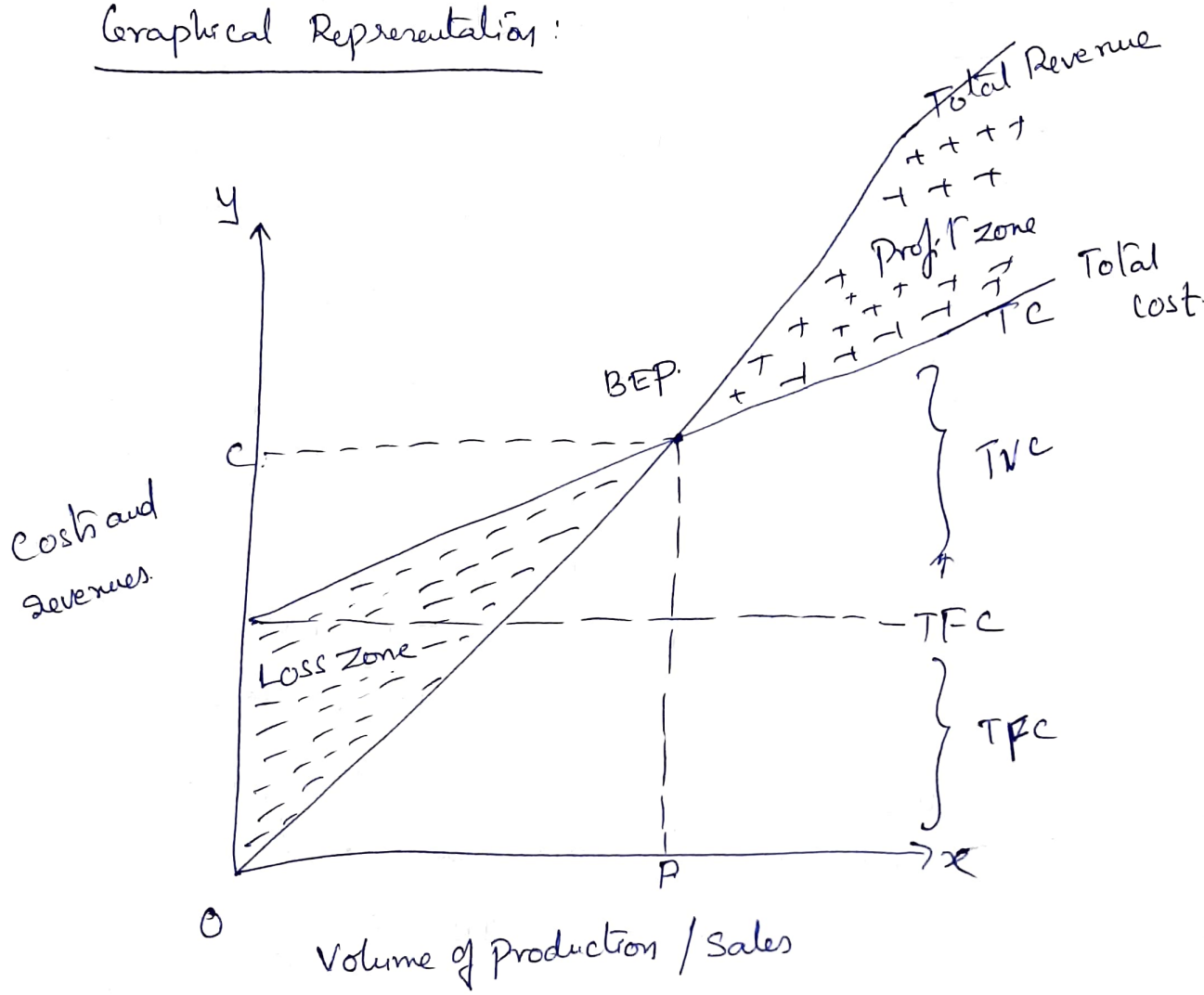
Break-Even Analysis refer to analysis of the break-even point (BEP). The BEP is defined as a no-profit or no-loss point. It is a technique for profit, planning and control and therefore is considered as a valuable managerial tool.

Break-even analysis is defined as analysis of costs and their possible impact on revenues and volume of the firm. Hence, it is also called the cost-volume-profit analysis. A firm is said to attain the BEP when its total revenue is equal to total cost. (TR = TC)

Assumptions:

1) Costs are classified into fixed and variable costs.
2) Selling price does not change with volume changes. It does not consider the price discounts or cash discounts.
3) All the goods produced are sold. There is no closing stock.
4) There is only one product available for sale.

Graphical Representation:



Limitations:

1) BEP is based on fixed cost, variable cost and total revenue. A change in one variable affect the BEP.

2) All costs cannot be classified into fixed & variable cost

3) It is applicable to short-period only.

Significance of BEA

1) Analyze the profit on a particular level of sales volume.
2) Calculate sales required to earn a profit.
3) To compare the efficiency of the different firms.
4) To decide whether to add a particular product to the existing product line or drop.
5) Decide whether to make or buy a particular product.
6) To assess the impact of changes in fixed cost, variable cost or selling price on BEP.
7) Useful in taking Managerial Decisions.

Determination of Break-Even Point :→

Selling price = Fixed cost + Variable cost + Profit.

Selling price − Variable cost = FC + Profit

= Contribution

∴ Contribution per unit = Selling price per unit − Variable cost per unit

① BEP in Units = $\frac{\text{Fixed costs}}{\text{Contribution Margin per Unit}}$

② Contribution Margin per Unit = Selling price per Unit − Variable cost per Unit

BEP in Value = $\frac{\text{Fixed costs}}{\text{Contribution Margin Ratio}}$

Examples. From text book page NO. 7.3

③ Contribution Margin Ratio = $\frac{\text{Selling Price} - \text{Variable cost}}{\text{Selling Price}}$

④ Margin of Safety (units) = Number of Units sold − B.E.P in Units

⑤ pv ratio = $\frac{\text{Change in net profit}}{\text{change in Sales}} \times 100$