

# Marginal Costing

## 1. Marginal Costing



<b>Sales</b>	<b>xx</b>
<b>(-) Variable cost</b>	<b>xx</b>
<b>Contribution</b>	<b>xx</b>
<b>(-) Fixed Cost</b>	<b>xx</b>
<b>Profit</b>	<b>xx</b>

# Marginal Costing

## 2. Cost Volume Profit (CVP) Analysis

## 3. Contribution = Sales – Variable Cost

## 4. Profit Volume (PV) Ratio or Contribution Ratio

This ratio doesn't change with change in level of output

This ratio changes with change in either selling price per unit or variable cost per unit

$$\text{PV Ratio} = \frac{\text{Contribution}}{\text{Sales}} \times 100 = \frac{\text{Sales} - \text{Variable Costs}}{\text{Sales}} \times 100 = \frac{\text{Fixed cost} + \text{Profit}}{\text{Sales}} \times 100$$

$$\text{PV Ratio} = 100 - \text{Variable Cost Ratio}$$

$$\text{Variable cost Ratio} = \frac{\text{Variable cost}}{\text{Sales}} \times 100$$

If data given at two levels

$$\text{PV Ratio} = \frac{\text{Change in Contribution}}{\text{Change in Sales}} \times 100 = \frac{\text{Change in Profit}}{\text{Change in Sales}} \times 100$$

# Marginal Costing

## 5. Break-even point (BEP)

It is the level of sales at which there is neither any profit nor any sales

In other words, it is the level of sales at which contribution is just able to recovery FC.

$$\text{Break-even Point (units of sale)} = \frac{\text{Fixed Cost}}{\text{Contribution per unit}}$$

$$\text{Break-even Point (in sales value)} = \frac{\text{Fixed Cost}}{\text{P/V Ratio}} = \text{Break-even point units} \times \text{Selling price per unit}$$

### Level of Sales

Sales > BES

Sales = BES

Sales < BES

### Situation

Profit

Profit or loss = 0

Loss

# Marginal Costing

## 6. Cash Break-even Point

It is level of sales at which cash profit or loss is zero.

$$\text{Cash Break-even Point (units of sale)} = \frac{\text{Cash Fixed Cost}}{\text{Contribution per unit}}$$

$$\text{Cash Break-even Point (in sales value)} = \frac{\text{Cash Fixed Cost}}{\text{P/V Ratio}}$$

## 7. Required sales for a given level of profit

$$\text{Sales to earn desired profit (units)} = \frac{\text{Fixed cost} + \text{Desired profit}}{\text{Contribution per unit}}$$

$$\text{Sales to earn desired profit (in ₹)} = \frac{\text{Fixed cost} + \text{Desired profit}}{\text{P/V Ratio}}$$

# Marginal Costing

## 8. Margin of Safety (MOS)

It is the level of sales over and above break-even sales

Margin of Safety (in ₹ ) = Actual sales – Break-even sales

Margin of Safety (in units) = Actual sale units – Break-even sales units

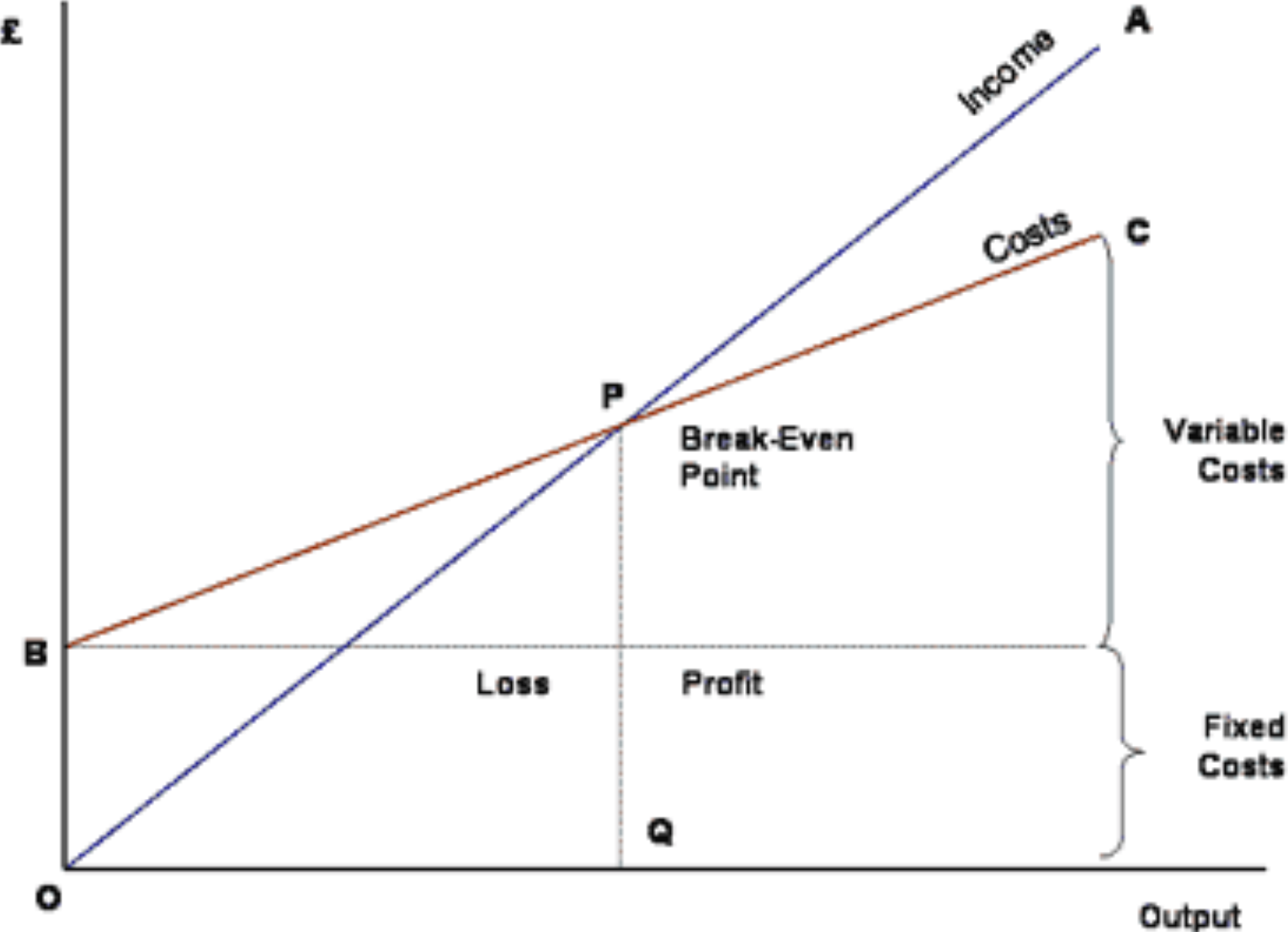
Margin of safety (in %) =  $\frac{\text{Margin of safety}}{\text{Total Sales}} \times 100$

Margin of Safety (in %) = 100% - Break-even Sales %

Margin of safety (in ₹ ) =  $\frac{\text{Profit}}{\text{P/V Ratio}}$

Margin of safety (in units) =  $\frac{\text{Profit}}{\text{Contribution per unit}}$

# Marginal Costing



# Marginal Costing

## 9. Points to Remember (PTRs)

(A) If fixed cost per unit is given then multiply it with the level of units at which such fixed cost per unit was computed.

(B) Apply price effect of Total FC and never apply on FC per unit

## 10. Dual Selling price or Dual variable cost questions

- It will lead to generation of dual contribution per unit

### Steps to solve

- Find both contribution per unit

- First calculate total contribution from 1<sup>st</sup> option which will be sold first.

- Recover the required value (FC or Profit etc.) from this and then calculate the balance required value.

# Marginal Costing

## 11. Composite or Overall BEP

This concept is used when company deals in multiple products.

Particulars	Product A	Product B	Product C	Total
Sales	XX	XX	XX	XX
(-) Variable Cost	XX	XX	XX	XX
Contribution	XX	XX	XX	XX
(-) Fixed Cost				XX
Profit				XX

# Marginal Costing

Overall Contribution per unit = Weighted average of contribution per unit =  $\frac{\text{Total Contribution}}{\text{Total Units}}$

Overall P/V Ratio = Weighted average of P/V Ratio =  $\frac{\text{Total Contribution}}{\text{Total Sales}} \times 100$

Overall Break-even Point (in units) =  $\frac{\text{Fixed Cost}}{\text{Overall Contribution Per unit}}$

Overall Break-even Point (in Rs.) =  $\frac{\text{Fixed Cost}}{\text{Overall P/V Ratio}}$

For product-wise BEP, distribute this in ratio of sales mix

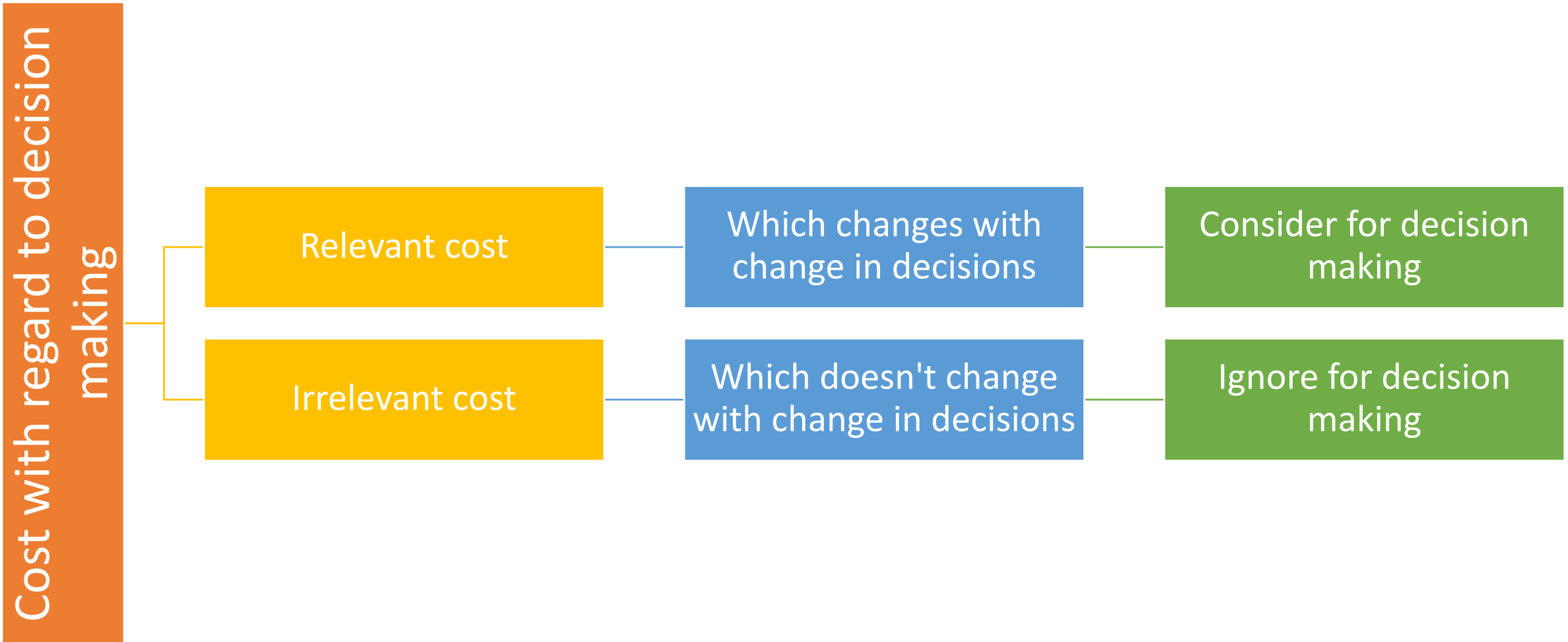
\*Weights will be sales % of each product out of total sales or sales mix

12. **Activity level % at BES** =  $\frac{\text{Break-even sales}}{\text{Total Sales at 100\% level}} \times 100$

13. **Shut down point** =  $\frac{\text{Avoidable fixed cost}}{\text{Contribution per unit or PV Ratio}}$

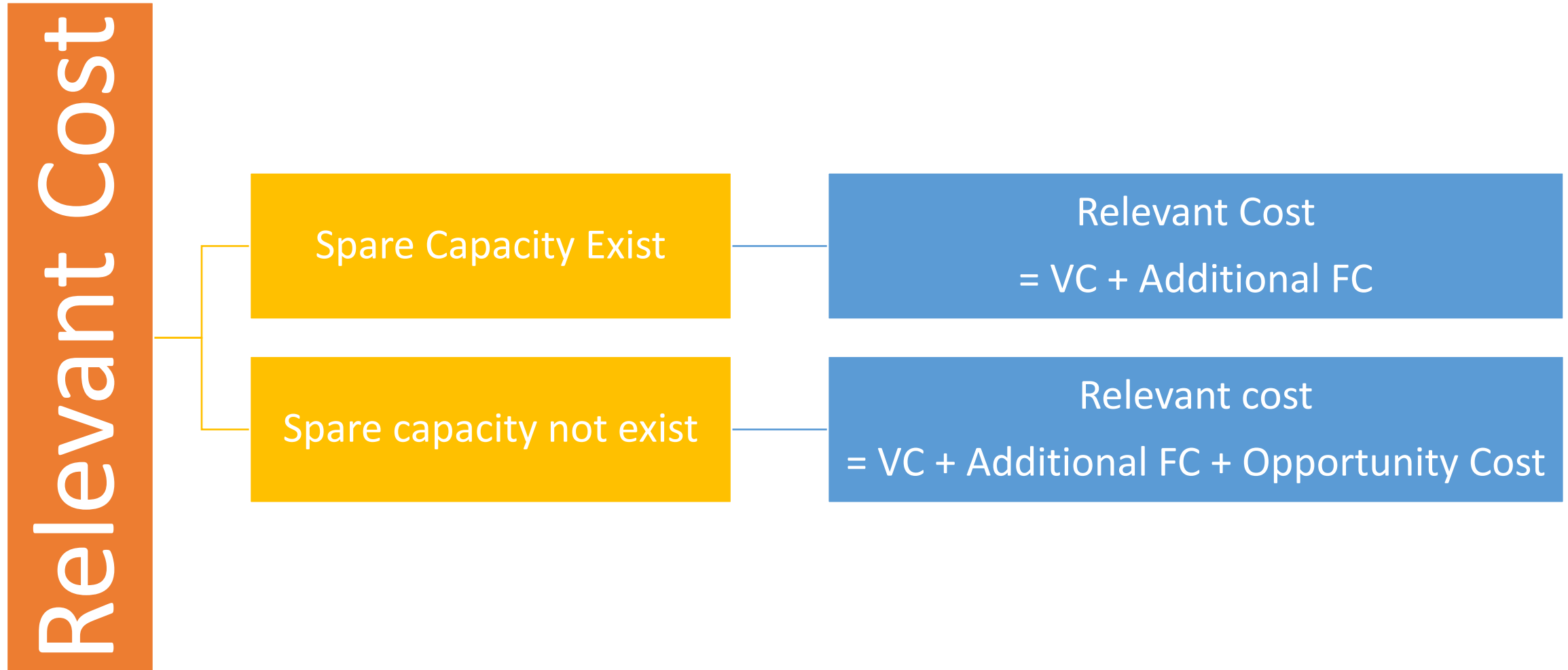
# Marginal Costing

## 14. Cost with regard to decision making



# Marginal Costing

## 15. Make vs Buy



# Marginal Costing

Relevant Cost Vs  
Purchase Cost

Relevant Cost  $>$   
Purchase cost

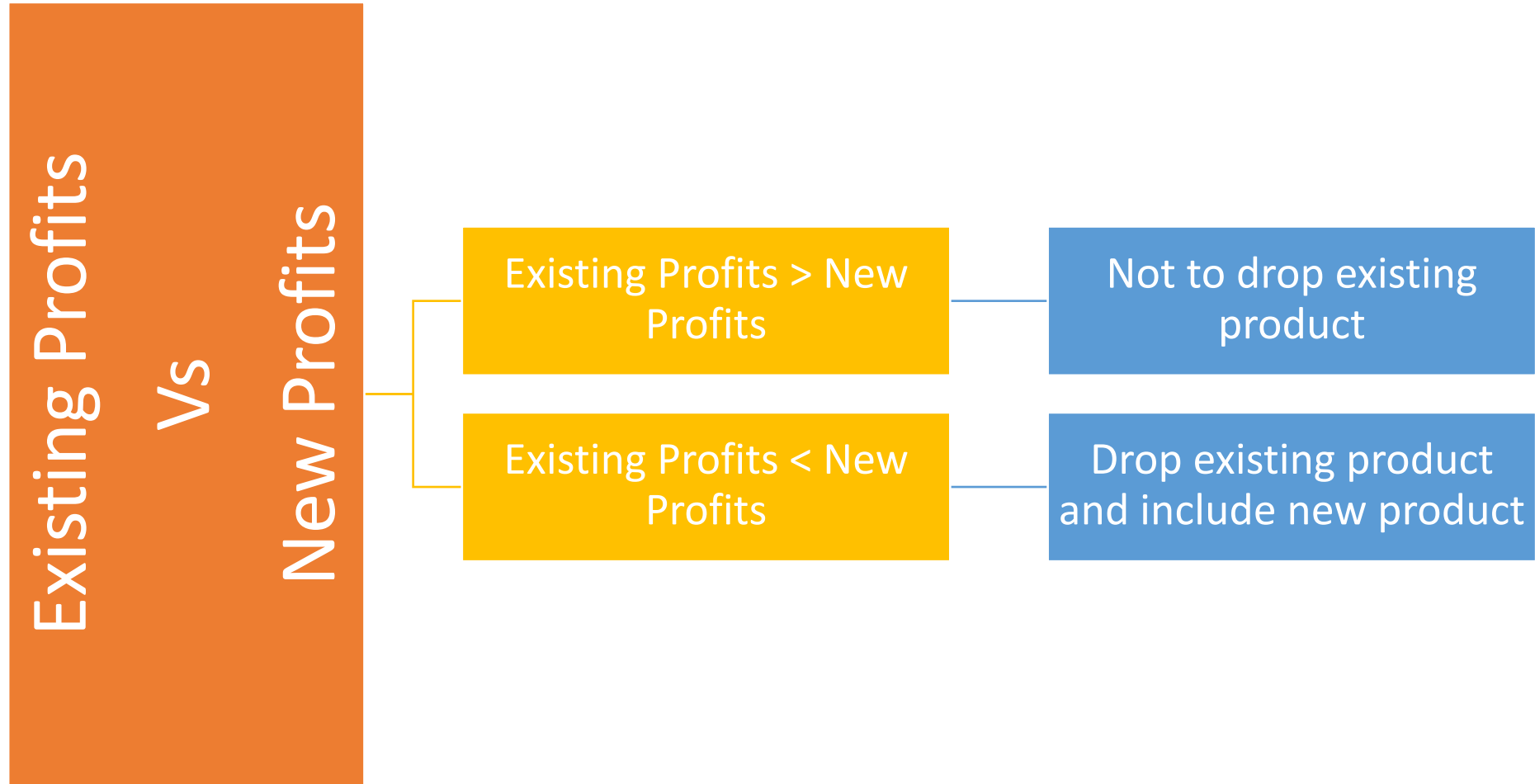
Recommend to  
BUY

Relevant Cost  $<$   
Purchase cost

Recommend to  
Make

# Marginal Costing

## 16. Dropping an existing product for new product



# Marginal Costing

## 17. Key factor or limiting factor

It is the factor which is limited in its availability

Decision will be taken on the basis of contribution per unit of key factor

### Key Factor

### Basis of Decision

Sales (in units)

Contribution per unit

Sales (in Rs.)

P/V Ratio

Material

Contribution per unit of material

Labour hour

Contribution per labour hour

Machine hour

Contribution per machine hour

# Marginal Costing

## 18. Indifference Level

Level at which cost of two options will be equal

$$\text{Indifference level} = \frac{\text{Difference in Fixed cost}}{\text{Difference in variable cost per unit}}$$

**OR** Total cost of option (i) = Total cost of option (ii)

$$(\text{VC1})(\text{Q}) + \text{FC1} = (\text{VC2})(\text{Q}) + \text{FC2}$$

Solve and find Q i.e. indifference level

Level	Recommendation
<b>Actual quantity &gt; Indifference level</b>	Select option having variable cost per unit is low
<b>Actual quantity &lt; Indifference level</b>	Select option where fixed cost is low
<b>Actual quantity = Indifference level</b>	Select any option

In case if there are three 3 options, then compute as follows:

(a) Case 1 & 2

(b) Case 2 & 3

(c) Case 1 & 3

# Marginal Costing

## 19. Income statement under Marginal Costing

Particulars	Amount
Revenue (A)	-
Direct Material	-
Direct Labour	-
Direct expenses	-
Variable manufacturing overheads	-
Variable GFC/NFC/COP	-
Add: Opening stock of finished goods	-
Less: Closing stock of finished goods	-
Variable COGS	-
Add: Variable administration overheads	-
Add: Variable selling & distribution overheads	-
Variable COS (B)	-
Contribution (A – B)	-
Less: Fixed manufacturing overheads	-
Less: Fixed administration overheads	-
Less: Fixed selling & distribution overheads	-
Profit	-

# Marginal Costing

## 20. Income statement under Absorption Costing

Particulars	Amount
Revenue (A)	-
Direct Material	-
Direct Labour	-
Direct expenses	-
Variable manufacturing overheads	-
Fixed manufacturing overheads	-
GFC/NFC/COP	-
Add: Opening stock of finished goods	-
Less: Closing stock of finished goods	-
COGS	-
Add: Fixed & Variable administration overheads	-
Add: Fixed & Variable selling & distribution overheads	-
COS	-
Add: Under absorbed fixed manufacturing overheads	-
Less: Over absorbed fixed manufacturing overheads	-
Total Cost (B)	-
Profit/(loss) (A – B)	-

# Marginal Costing

Profit of Marginal and Absorption differ due to difference in the stock values under both methods

<b>Particulars</b>	<b>Amount</b>
<b>Profit as per Marginal Costing</b>	XX
<b>(-) Opening stock under valued in Marginal</b>	XX
<b>(+) Closing stock over valued in Marginal</b>	XX
<b>Profit as per absorption</b>	XX