**Formulas for BEP-**

1. Contribution Margin= (S-V)

Where S- Sales price/Unit

V- Variable Cost/ Unit

1. BEP (Units)= F/(S-V) or F/CM

Where F-Fixed Cost

CM- Contribution Margin

1. BEP (Rs.)= [F/(S-V)] \* S
2. BEP= F/ Profit Volume Ratio
3. BEP (Capacity %)= [(BEP/Total Capacity)]\*100
4. PV Ratio= [(S-V)/S]\*100
5. PV Ratio= (Incremental Profit/Incremental Sales)\*100
6. Margin of Safety= (S-BEP) or (Profit/CM)
7. Margin of Safety (%)= [(BEP/S)-S]\*100
8. Contribution Margin= S\*Profit Volume Ratio
9. FC= CM-Profit
10. Calculation of sales for desired profit-
11. In Rupees= [(F+ Desired Profit)/C]\*S
12. In Units= [(F+ Desired Profit)/C]
13. With Profit Volume Ratio= [(F+ Desired Profit)/PV Ratio]

**Formulas for Overhead Costing-**

1. Single plant wide factory overhead= (Total Cost/ Direct Labor Hours)
2. Burden Rate= (Budgeted Variable+ Fixed Overhead Cost)/ (Budgeted Direct Labor Hours)
3. Standard Cost= (Direct Labor Hours\* Burden Rate)+ (Direct Labor and Material Cost)

**Formulas for Variance-**

1. Material Price Variance= (SP- AP)\* AQ

Where, SP= Standard Price

AP= Actual Price

AQ= Actual Quantity

1. Material Usage Variance= (SQ-AQ)\*SP

Where, SQ= Standard Quantity

AQ= Actual Quantity

SP= Standard Price

1. Labor Rate Variance= (SR-AR)\*AH

Where, SR= Standard Rate

AR= Actual Rate

AH= Actual Labor Hour

1. Labor Efficiency Variance= (SH-AH)\* SR

Where, SH= Standard Labor Hour

AH= Actual Labor Hour

SR= Standard Rate

1. Overhead variances:

Actual overhead – Standard Overhead= Overhead spending variance

Standard Overhead - Absorbed = Overhead Volume variance