

Overheads (Absorption costing)

↓
Indirect Cost
(TM + TL + TE)

↓
How to link OH to cost object?
& When?

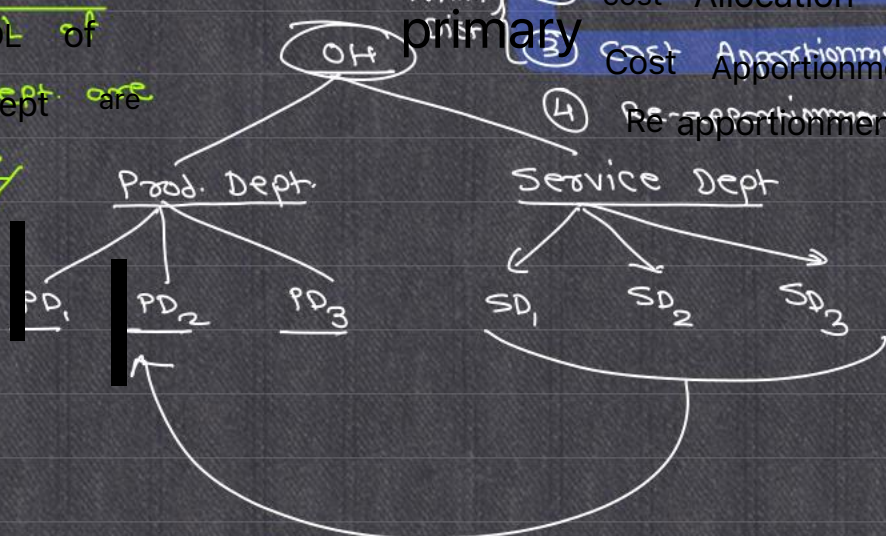
Budgeted Actual

① Estimate OH

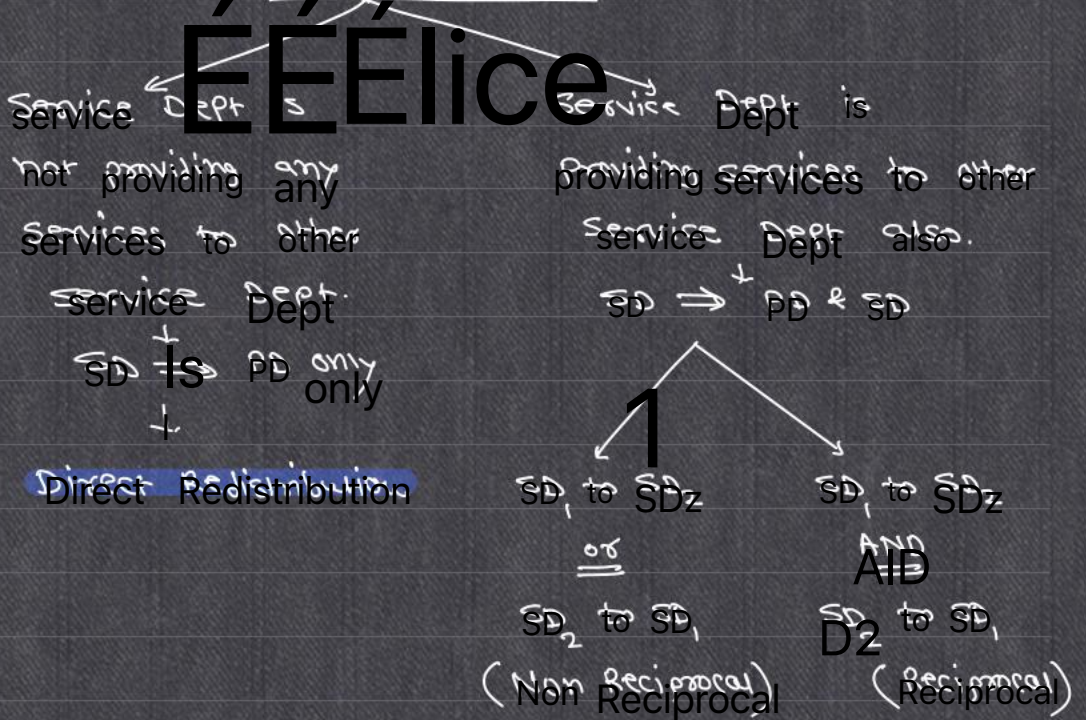
* DM and DL of service Dept are Overheads.

Primary ② Cost Allocation (specific)
③ Cost Apportionment (common)

④ Re-apportionment



Re-apportionment



Step
method

Simultaneous
Equation
Method

Repeated
Redistribution
method

SP. Eff.	Particulars	Amt. (total)	Basis	PD ₁	PD ₂	SD ₁	SD ₂
	OH as per primary Distribution (Ata)	- F -		---	---	---	---
	Re-app of SD ₁			---	---	(f - y)	
	Re-app of SD ₂			---	---		(f - ...)
	f. Total	3e		---	---	0	0

- * S₁ ⇒ S₂ S₃ S₄ S₅ (4) * under step Ladder
- (S₂) ⇒ S₃ S₄ (2) method we re-apportion
- S₃ ⇒ S₄ (1) on of service Dept
- S₄ ⇒ None (10) providing services to
- S₅ ⇒ None (0) Maximum no. of other
- Service Dept.

	S ₁	S ₂	S ₃
OH as per primary Dist.	---	990	---
Reapp of S ₁	(---)	---	---
	0	5890	---
Reapp of S ₂		(45800)	---
		0	---

$$\text{OH of } S_1 = \text{OH of } S_1 \text{ as per primary Dist} + \text{OH received from } S_2$$

$$x = 340,000 + 0.40y$$

YOH

$$\text{OH of } S_2 = \text{OH of } S_2 \text{ as per primary Dist} + \text{OH Received from } S_1$$

$$y = 6,10,000 + 0.30x$$

	PD ₁	PD ₂	SD ₁	SD ₂
S ₁ Provides to	40%	30%	-	30%
S ₂ provides to	50%	10%	40%	-

$$\begin{array}{l} \text{Primary cost of } S_1 = 3,40,000 \quad x > 340,000 \\ \text{--- " --- } S_2 = 6,10,000 \quad y > 6,10,000 \end{array}$$

	S ₁	S ₂
as per primary	3,40,000	6,10,000
S ₁	(3,73,450)	-49,300
S ₂	33,450	(6,59,300)
	0	0

Step 5: Absorption (Absorption Rate)

$$\text{Machine Hour Rate} = \frac{\text{Comprehensive OH of M/c}}{\text{machine hrs}}$$

(a) Set up time & Productive time
(Two Tier MHR)

(b) Amt are P.m., P.m., per quarter etc.

AND

Per MIC or All MIC

(c) Running cost (Variable) } Show WHR
standing charges (fixed) } Separately

e.g. ^{total} MHR = 35/ Hour for 4000 Hrs

Fixed cost = 240000

Find MHR at 7000 Hrs Level.

Sol: Var. Cost at $\frac{(4000 \times 35) - 240000}{4000}$

Present per Hour

= 25/148

At 7000 Level = $\frac{(7000 \times 25) + 240000}{7000}$

MHR will be

= 30.71/42

② Labour Hour Rate

③ % of ^{Direct} Labour cost = $\frac{DH}{\text{Lab. cost}}$

④ % of ^{Material} cost

⑤ % of ^{prime} cost

Absorption

by sorption

Blanket
Rate

Departmental
Rate

Step 6: Absorbed OH = $\frac{\text{Std. OH}}{\text{Unit}}$ \times Actual Output

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st1
For Actual output

8.9. SH/unit = 4 Hrs
 Budgeted output = 25000 units
 Budgeted OH = 29,50,000
 Actual output = 31000 Units Act Hrs = 114,000
 Actual OH = 10,83,000

501: Absorption Rate Per Hour = $\frac{\text{Budgeted OH}}{\text{Budgeted Hrs}}$
 $= \frac{9,50,000}{(25000 \times 4)}$

= 9.50 / Hour

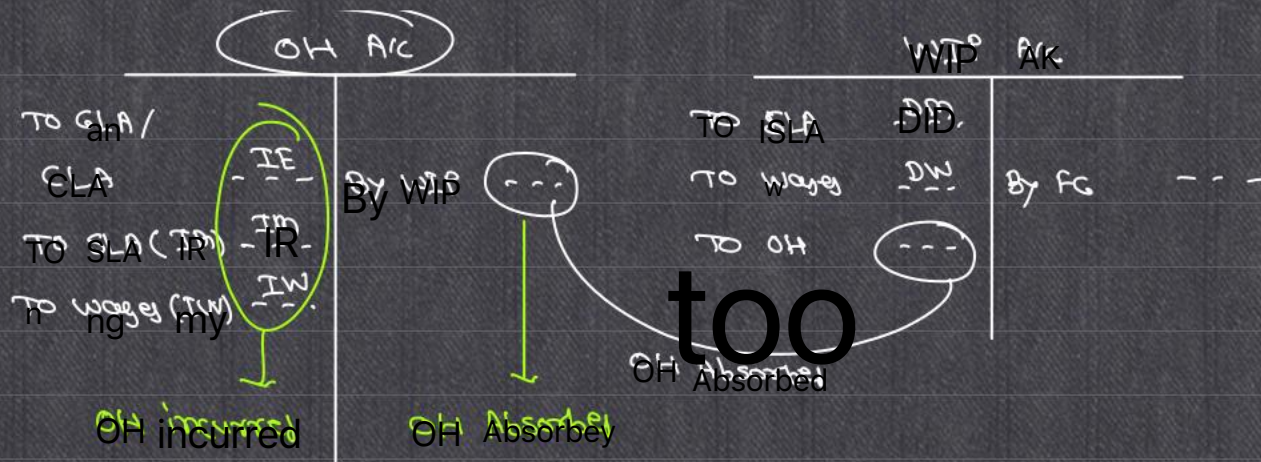
Absorption Rate per unit = $9.50 \times 4 = 38$

Absorbed OH = Actual O/p \times Absorption Rate / unit
 $= 31000 \times 38 = 11,78,000$

ID

Absorbed OH = Actual Hrs \times Absorption Rate / Hour
 $= 114,000 \times 9.50$
 $= 10,83,000$

Absorbed OH = Std. Hrs \times Absorption Rate / Hour
 $= (31000 \times 4) \times 9.50$
 $= 11,78,000$

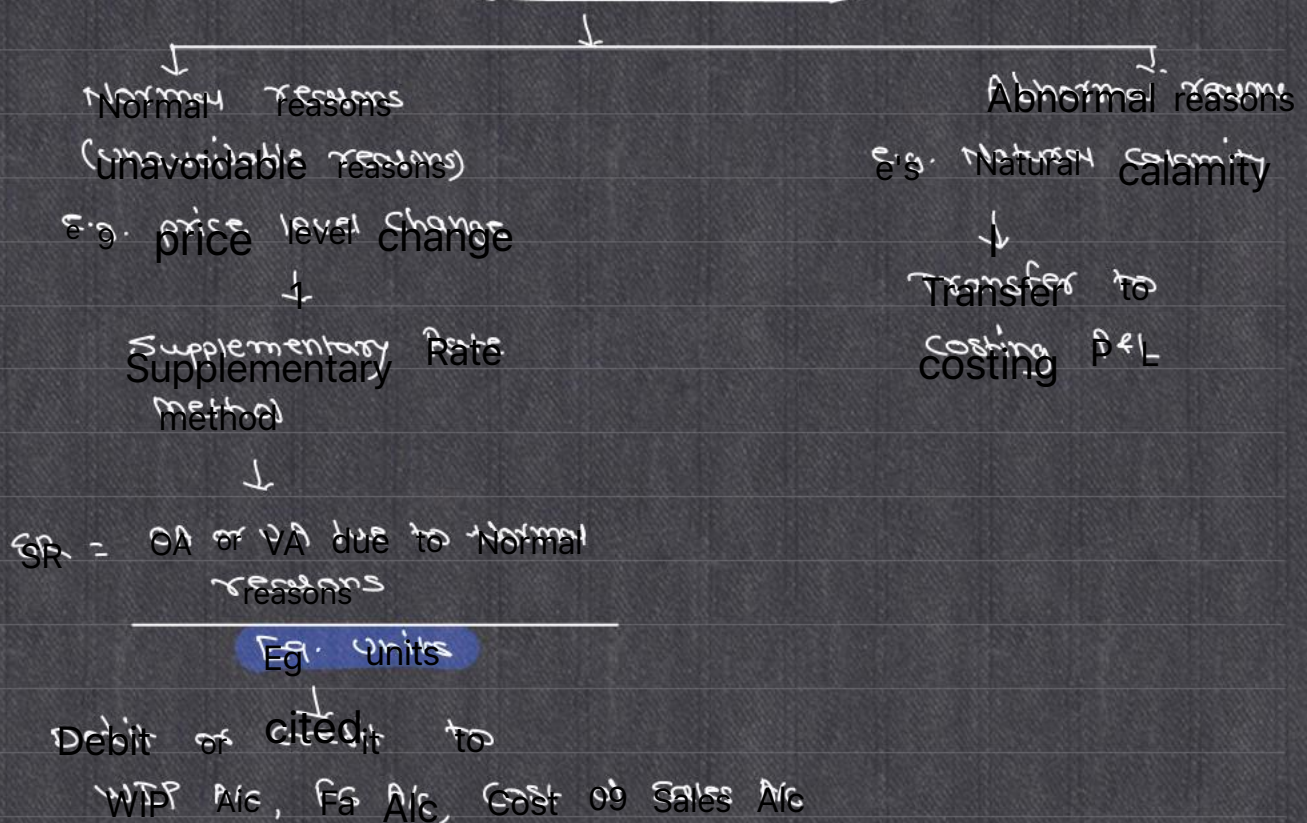


Debit in OH A/c \Rightarrow Under Absorption \Rightarrow Adverse Variance
 Credit in OH A/c \Rightarrow Over Absorption \Rightarrow Favourable Variance

Under / over Absorption Analysis

as per Accounting Angie

(overheads chapter)



Physical
Quantity

Eg.
Eg.

e.g. Job Qty	100%	Qty
Less: Still in WIP	2000	5709 / 100% = 1400
+ FG completed	202	
Less: Still in stock	150	100% = 1500
∴ Sold	650	100% = 6500
		<u>990</u>

OH incurred	=	\$ 19,000,000
OH Absorber	=	\$ 17,10,000
+ UA	=	190,000

Supplementary Rate per Unit = $\frac{\text{UA due to normal reasons}}{\text{Ea. units}}$

$$= \frac{190000}{2000}$$

$$= 20.21 / \text{unit}$$

WIP AK	(1400 x 20.21)	28294
FG AK	(1500 x 20.21)	30315
Cost of Sales Ac	(6500 x 20.21)	1,31,365
TO OH AK		1,89,974

* If Amt of UA / OA is very small then we carry forward Amt of UA/OA without Any Analysis.

Analysis of UA/OA from Mgmt. Angle
(Standard Costing)

OH cost variance = Std. Cost - Actual Cost

TAX = (Act op x SR/unit) - Actual Cost

VA or OA

OR

$$= (\text{std. hrs} \times \text{SP/Hour}) - \text{Actual Cost}$$

How to separate SVC?

Regression

Analyse vouchers

High Low method

Beta = variable cost or slope p

y intercept = Fixed cost

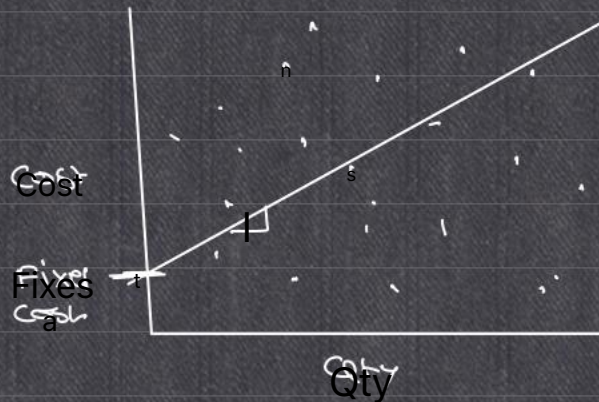
to

$$\text{var. cost/unit} = \frac{\text{change in cost}}{\text{change in qty}}$$

$$\text{SVC} = \text{var. cost} + \text{Fixed cost}$$

$$\text{SVC} = \text{Qty} \times \text{var. cost/unit} + \text{Fix. cost}$$

Qty (x)	SVC (y)
-	-
-	-
-	-
-	-
-	-
-	-



$$\text{slope (m)} = \frac{\text{Covariance}_{xy}}{\text{Variance}_x} = \frac{\sum (x - \bar{x})(y - \bar{y})}{\sum (x - \bar{x})^2}$$

$$y = m \bar{x} + e$$

$$\bar{y} = m \bar{x} + e$$

$$\bar{y} - m \bar{x} = \text{Fixed cost}$$

Analysis of Var. OH cost variance (HS Base)

$$\text{Voh Var} = (\text{SH} \times \text{SR}) - (\text{AH} \times \text{AR})$$



Analysis of Var OH cost variance (Output Based) **Eutsey**

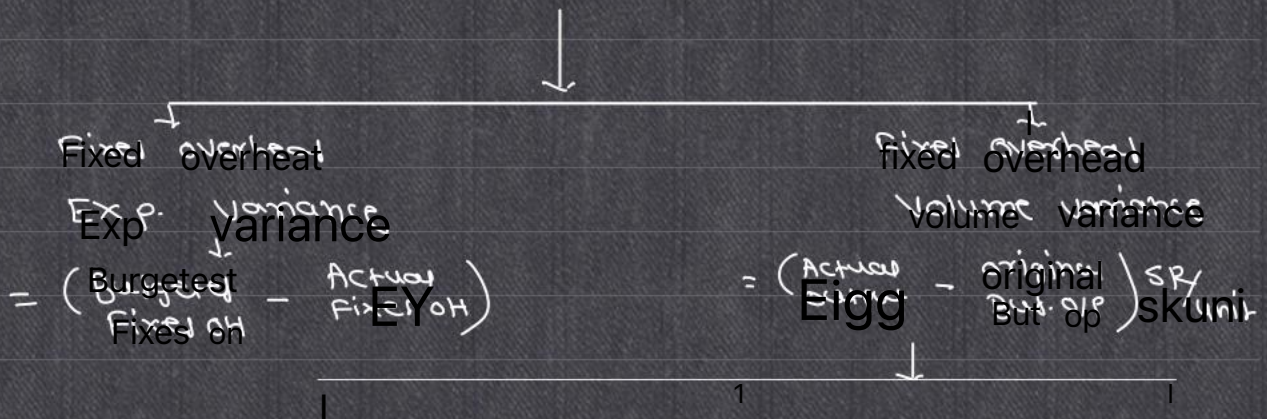
$$\text{Voh Var} = (\text{Act. OP} \times \text{SR}) - (\text{Act. O/p} \times \text{A Run it})$$



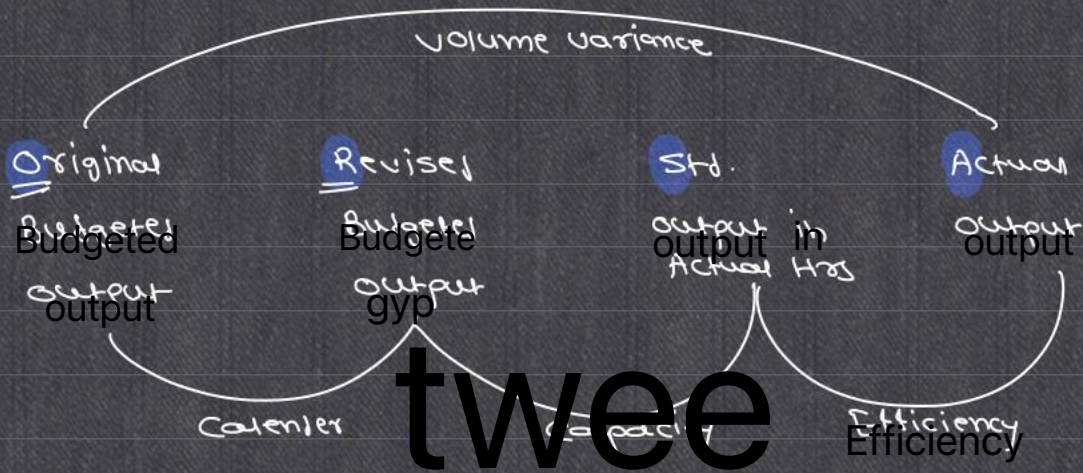
Fixed overhead variance (Output Based)

$$\text{FOH Cost Variance} = \text{Std. Cost} - \text{Actual Cost}$$

$$= (\text{Act. O/p} \times \text{SR/unit}) - (\text{Act. O/p} \times \text{Actual Rate})$$



$$= \left(\frac{\text{Revised Bud.} - \text{Original Bud.}}{\text{Original Op}} \right) \times \text{SR} \quad \text{Capacity} = \left(\frac{\text{Std.} - \text{Revised}}{\text{BE. IS.}} \right) \times \text{SR/unit} \quad \text{Efficiency} = \left(\frac{\text{Act.} - \text{Std.}}{\text{Std.}} \right) \times \text{SR/unit}$$



Fixed OH Cost Variance (Hrs Bases)

$$= (SH \times SR) - (AH \times AR)$$

Fixed OH Exp. Variance

$$= \left(\frac{\text{Budgeted OH} - \text{Actual OH}}{\text{Budgeted OH}} \right) \times \text{SR}$$

Fixed OH Volume Variance

$$= \left(\frac{SH - \text{original}}{\text{original}} \right) \times \text{SR}$$

Calendar

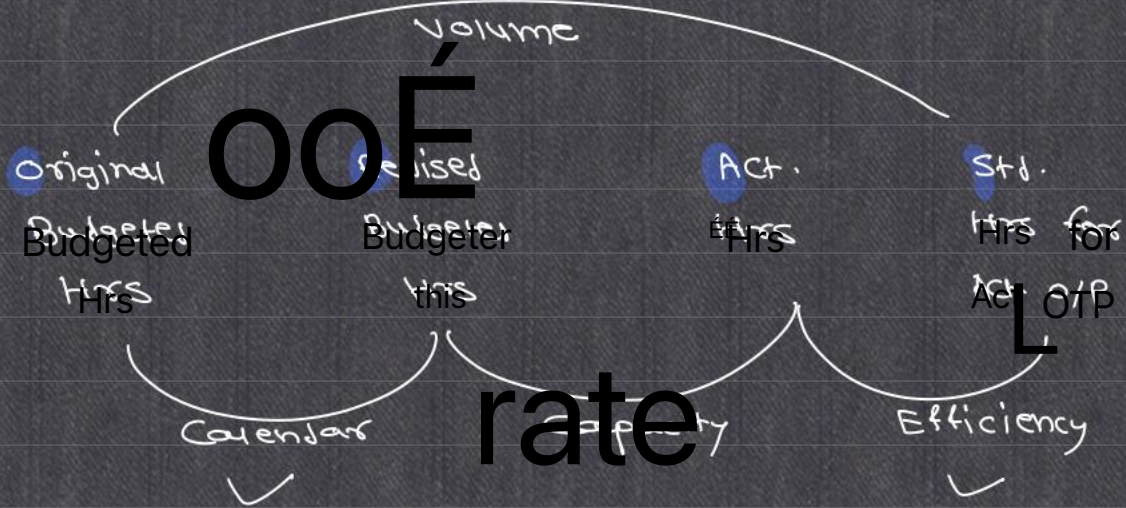
$$= (RBH - OBH) \times SR/Hr$$

Capacity

$$= (AH - RBH) \times SR/Hr$$

Efficiency

$$= (SH - AH) \times SR/Hr$$



Control Ratio's

(i) Efficiency Ratio = $\frac{\text{Std. Hrs for Act. Oip}}{\text{Actual Hrs}} \times 100$

(ii) Calendar Ratio = $\frac{\text{Revised Bud. Hrs}}{\text{original Bud. Hrs}} \times 100$

OR

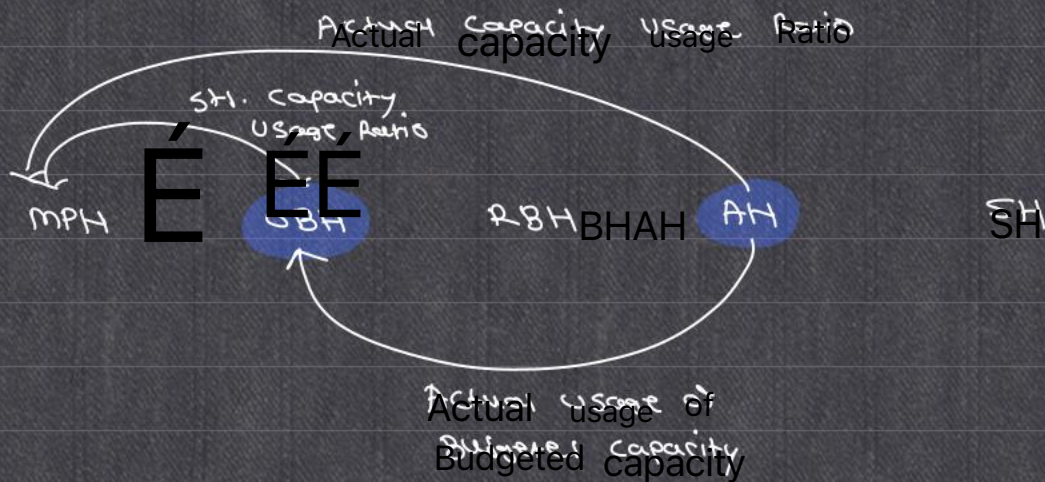
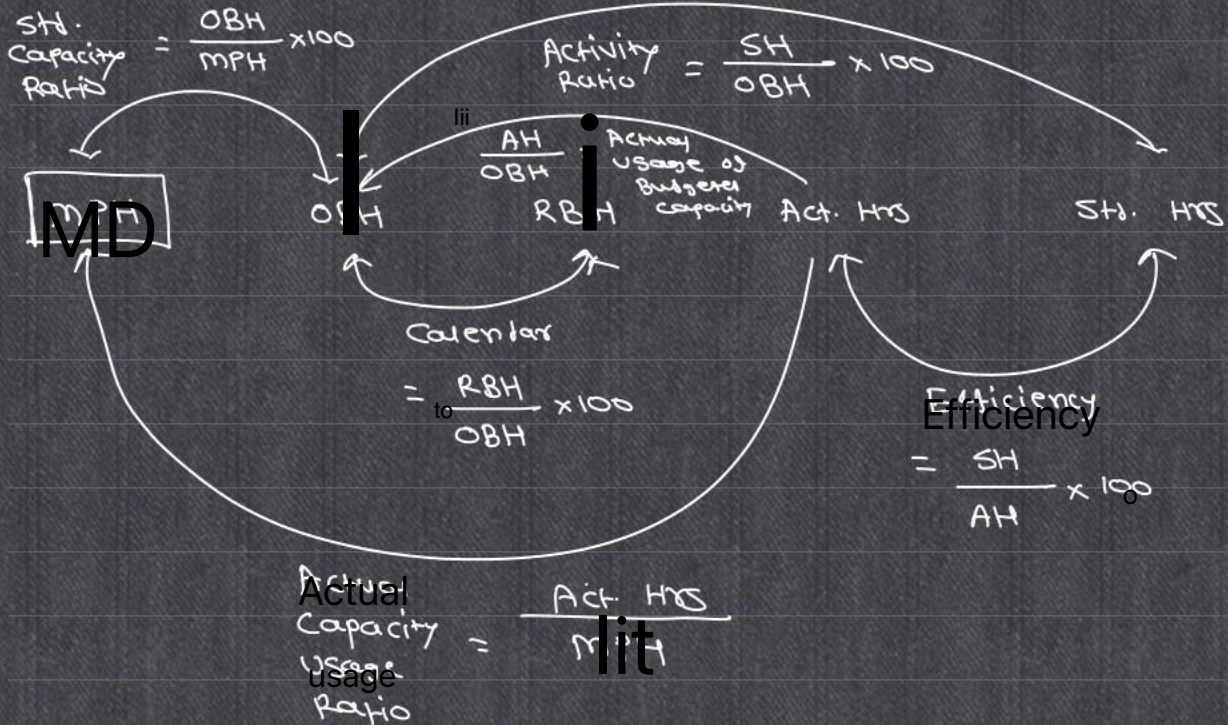
$\frac{\text{Actual Days}}{\text{Budget Days}} \times 100$

(iii) Std. Capacity Usage Ratio = $\frac{\text{Bud. Hrs}}{\text{Max Possible Hrs in Budget}} \times 100$

(iv) Actual Capacity Usage Ratio = $\frac{\text{Actual Hrs}}{\text{Max Possible Hrs}} \times 100$

$$(v) \text{ Actual usage of Budgeted Capacity} = \frac{\text{Actual Hrs}}{\text{Original Bud. Hrs}} \times 100$$

$$(vi) \text{ Activity Ratio} = \frac{\text{Std. Hrs}}{\text{Original Bud. Hrs}} \times 100$$



Control Ratios (Based on o/p)

