

OVERHEADS

- 1) Collect all indirect expenses
- 2) Allocate the expenses related to specific dept. - if any.
- 3) Apportion the balance expense on all the prodn & service dept.
- 4) Total indirect cost of all prodn & service dept.
- 5) Add DM, DL, DE to service dept.
- 6) We get Total cost of SD (DC & IDC) all redistributed / reappportioned to PD using various methods.
- 7) We get $TCC(PD) = IDC(PD) + \text{allocated IDC}(SD)$

① Always add DM, DL and DE(OH) of SD while / after allocating the OH
 fee total IDC

② Own OH
 (+) redist cost from SD

 Total OH (cost)

③ Rec. cost = Actual units/hes x RR P.V/M.

④ VA/OA = recovered - actual Normal OH

Methods to redistribute SDC → PDC.

1) Direct method

PD = A, B
 SD = X, Y, Z
 X = A, B
 Y = A, B
 Z = A, B.

Cost	PD	
	1	2
SD ₁	x	x
SD ₂	x	x
(+) Own IDC	x	x
T IDC	<u>x</u>	<u>x</u>

2) Step ladder method.
 Non reciprocal method
 Service method.

PD₁, PD₂
 SD₁, SD₂, SD₃.

SD₁ = PD₁, PD₂, SD₂, SD₃
 SD₂ = PD₁, PD₂, SD₃
 SD₃ = PD₁, PD₂
 in the hierarchy

	SD ₁	SD ₂	SD ₃	PD ₁	PD ₂
Cost	x	x	x	x	x
(+) SD ₁	(x)	(x)	x	x	x
(-) SD ₂		xx	(x)	x	x
		(x)	x		
(-) SD ₃			(x)	x	x
T IDC				<u>x</u>	<u>x</u>

3) Reciprocal assumption.

A) Trial & error / repeated distribution.

PD₁, PD₂, SD₁, SD₂, SD₃
 SD₁ = PD₁, PD₂, SD₂, SD₃
 SD₂ = PD₁, PD₂, SD₁, SD₃.

(B) Algebraic / Simultaneous equation method.
 can be used only if there are 2 SD.

	PD ₁	PD ₂	PD ₃	SD ₁	SD ₂
Cost	y	y	y	y	y
(-) X cost	x	x	x	(x)	x
(-) Y cost					(x)
(-) X	x	x	x	x	(x)
(-) Y					(x)
T IDC	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>	<u>x</u>

[B]

Own cost	SD ₁	SD ₂
(+) SD ₂	x · SD ₂	x
(+) SD ₁	<u>SD₁</u> - ①	<u>SD₂</u> - ②

① & ② are the 2 eqⁿ.

FC - normal capacity
 VC - actual

RECOVERY / ABSORPTION OF OH (RR)

E = expected, budgeted OH

Factor

Formulae

(i) Output no of units

$$R.R \text{ P.V} = \frac{E(TOH)}{E \text{ no. of units}}$$

(ii) labour hours (labour oriented process)

$$R.R \text{ per lab. hr} = \frac{E(TOH)}{E \text{ lab. hrs}}$$

(iii) machine hours

$$R.R \text{ per mach hr} = \frac{E(TOH)}{E \text{ mach hr.}}$$

(iv) % of material cost

$$RR (\%) = \frac{E(TOH)}{E \text{ mat. cost}} \times 100$$

(v) % of labour cost

$$RR (\%) = \frac{E(TOH)}{E \text{ labour cost}} \times 100$$

(vi) % of prime cost

$$RR (\%) = \frac{E(TOH)}{E \text{ prime cost}} \times 100$$

$$\text{supplementary} = \frac{OA/VA}{\text{P.V.} \cdot \frac{FG+COGS+WIP}{\text{units}}}$$

1] DEPARTMENT (OH) RR

• calculated for various dep.

$$DRR = \frac{E(OH) \text{ of dep}}{E(\text{factor})}$$

• always preferred than blanket rate.

2] BLANKET OH RR

OVERALL OH RR

$$B.RR = \frac{E(OH) \text{ of all dep combined}}{E(\text{factor}) \text{ of all dep combined}}$$

A] Compare actual with recovered OH

R.OH > A.OH
over absorption

↓
profit

R.OH < A.OH

underabsorption

↓
loss.

use only if

(a) Co. produces only 1 unit

OR

(b) more than 1 unit but all prod pass through each of the dept for same time.

B] Treatment of VA/OA

Ab Normal Reason
defective planin.
(costing P&L)

VA: Costing PL
To OH control A/c

OA: OH control A/c
To costing P&L A/c.

if OA or VA is of negligible amt then to costing P&L (normal reason)

Ab normal reason.
inflation.

VA: WIP control
FG control
COS
To OH control A/c

OA: OH control
To WIP control
To FG control
To COS. A/c.

MACHINE HOUR RATE

$$\text{MHR} = \frac{E(\text{OH}) \cdot p.a / p.m / p.w / p.\text{machine}}{p.a / p.m / p.w / p.\text{machine}}$$

E productive mach. hr p.a/p.m...
(\rightarrow maint. hours)

E(OH) = (i) directly related OH.
(ii) directly related OH + general OH
(iii) directly related + gen. OH + operator wages

simple MHR

comprehensive MHR

nothing mentioned \rightarrow both.

• careful \rightarrow p.a/p.m/p.w

info will be given different.
calculate uniformly.

2) read question carefully

3) small info - VIP

4) dep - ✓✓

setting up time \rightarrow productive hours

CAPACITY RELATED CONCP (2) (OH)

① Theoretical/Maximum:-

- plant - continuous prodⁿ - peak efficiency never be achieved. installed/valued
- eg:- 365 days a yr.

2) Practical :- (operating) actually utilised from maximum - allowances (holidays, set, unavoidable idle time). 80-90%

3) Long term/Normal

practical - lack of sales or order demand. avg - OH recovery rate

5) Short term/expected

- volume of prodⁿ to meet the projected demand in next yr.

idle = practical - normal

TWO TIER MHR (dual rate)

1) Find total FC

2) \div FC by total productive hrs (normal + set up).

$$\downarrow$$
$$\text{FC p.h.}$$

3) Find total VC

4) \div VC by total operating (running/normal) hrs \rightarrow VC p.h.

(don't include set up time)

5) Find rates for:-

$$\text{Set up time} = \text{FC p.h.}$$

$$\text{Running time} = \text{FC p.h.} + \text{VC p.h.}$$