SERAMPORE COLLEGE

DEPARTMENT OF COMMERCE

B.COM 2ND SEMESTER (Hons)

COST AND MANAGEMENT ACCOUNTING - I

Problems on Allocation of Overhead:

A company has three production departments and two service departments. Distribution summary of overheads are as follows:

	P1	P2	P3	S1	S2
Overhead distribution summary (Rs'000)	15	10	12	10	5

The expenses of service department are absorbed as a percentage basis as follows:

	P1	P2	P3	S1	S2
S1 (%)	30	30	20		20
S2 (%)	20	30	20	30	

Show the re apportionment of the service department overheads to production department.

Solution:

S1 serves to P1 + P2 + P3 & also S2. Again S2 serves to P1 + P2 + P3 & also S1. As a result service department will go on infinite ways. So it may be solved by simultaneous equation as follows:

Let x = S1	Let y = S2
x = 10000 + 30% y	y = 5000 + 20% x
Or, x = 10000 + 0.3 y	or, y = 5000 + 0.2x
Or, 10x – 3y = 100000 ------ (i)	or, 10y – 2x = 50000 ------ (ii)

By multiplying equation (i) by 1 & equation (ii) by 5 we get,

10x – 3y = 100000

-10x + 50y = 250000

47y = 350,000

Therefore, y = 7446 (S2). Putting the value of y we get x = 12234 (S1).

STATEMENT SHOWING RE-DISTRIBUTION (SECONDARY DISTRIBUTION) OF SERVICE DEPARTMENT OVERHEADS TO PRODUCTION DEPARTMENT:

	TOTAL	P1	P2	P3
As per distribution summary	37,000	15,000	10,000	12,000
ABSORBTION OF S1				
80% of 12234 = 9788 to production dept (3:3:2)	9788	3671	3670	2447
ABSORBTION OF S2				
70% of 7446 = 5213 to production dept (2:3:2)	5213	1490	2234	1489
TOTAL OVERHEAD AS ALLOCATED	**52,001**	**20,161**	**15,904**	**15,936**

UNDER ABSORBTION AND OVER ABSORBTION OF OVERHEADS

PROBLEM:

A manufacturing company has three machines A, B & C in its production department. It is estimated that each machine will normally work 50 weeks a year, 45 hours per week. But it is anticipated that the machine will remain idle 20% of time due to normal repairs & maintenance. The budgeted distribution of overhead for a year is as follows:

	M1	M2	M3
Total budgeted overhead (Rs)	12400	13600	18,500

During the 4 weeks of a month at 80% capacity utilisation actual overhead incurred were:

M1	M2	M3
Rs 1200	Rs 900	Rs 2000

Calculate:

i. **Budgeted overhead rate based on effective working hour.**
ii. **Amount of under or over absorbtion.**
iii. **Revised overhead application rate.**

SOLUTION:

Effective hours for budget:

= (50 * 45) – 20% (50 * 45) = 1800

Effective hours for actual work at 80% capacity for a month:

= (4 week * 45 hrs) – 20% (4 week * 45 hrs) = 144

i. Budgeted overhead rate:

M1	M2	M3
12400/1800	13600/1800	18500/1800
= 6.89	= 7.56	= 10.28

ii. Statement showing under or over absorbtion:

	M1	M2	M3
Estimated / Budgeted overhead	6.89*144	7.56*144	10.28*144
	992	1089	1480
Over head actually incurred	1200	900	2000
	-208	189	-520
	under absorbed	over absorbed	under absorbed

NOTE: Actual expense more = absorbtion low = under absorbed

iii. Revised overhead applicable rate:

M1 = 1200/144 = 8.33

M2 = 900/144 = 6.25

M3 = 2000/144 = 13.89

For any query contact N.B. 9830953576.