

PRACTICE QUESTIONS

Q.1. A manufacturing company has two production departments, Department A and Department B. It also has two service departments, quality control and the repairs department. Allocated overhead costs and apportioned general overhead costs for each cost centre are as follows:

Department A:	Rs.100,000
Department B:	Rs. 200,000
Quality Control:	Rs. 150,000
Repairs:	Rs. 220,000

Department	Total	Dep A	Dep B	QCR	Repairs
Quality control	100%	40%	40%	-	20%
Repairs	100%	50%	40%	10%	-

Required: Apportionment of FOH using:

- (a) Simultaneous equation method
- (b) Repeated distribution method

(Q1) a)

Let the total overheads apportioned from the ~~Cost~~ quality control be X

Let the total overhead apportioned from the repair control be Y

$X =$ original OH of quality control $+ 20\%$ of repairs

$Y =$ original OH of repairs $+ 10\%$ of quality control

it gives us

$$X = 150,000 + 0.20Y \quad \text{--- (1)}$$

$$Y = 220,000 + 0.10X \quad \text{--- (2)}$$

\rightarrow

Re-arrange the two equations

$$x - 0.20y = 150,000 \quad \text{--- (1)}$$

$$-0.10x + y = 220,000 \quad \text{--- (2)}$$

Multiply equation (2) by 0.2 and add two equations to obtain a value for X

$$x - 0.20y = 150,000$$

$$0.02 + 0.10y = 220,000$$

$$0.98x + 0 = 370,000$$

$$x = \frac{370,000}{0.98} = 377,551 \rightarrow \text{X}$$

put value of x in equation (1)

$$377,551 - 0.20y = 150,000$$

$$-0.20y = 150,000 - 377,551$$

$$-0.20y = -227,551$$

$$y = 227,551 / 0.20$$

$$y = 1,137,755$$

The apportionment of OH

Allocated OH cost	Dep A	Dep B	QCR	Repairs
Allocated OH costs	100,000	200,000	150,000	220,000
Quality control (40:40:20)	151,020	151,020	(377,551)	78,510
Repairs (50:40:10)	568,878	455,102	1,137,755	(1,137,755)
Total	819,898	806,122	(1,137,755)	(842,245)

⑥ Repeated distribution method

	Dept A	Dep B	Qcr	Repairs
Particulars				
Allocated	100,000	200,000	150,000	220,000
OH costs				
Work done by service dept				
QCR	40%	40%	-	20%
Repairs	50%	40%	10%	-
The apportionment as				
QCR (40:40:20)	60,000	60,000	(150,000)	30,000
Repairs (50:40:10)	125,000	100,000	25,000	250,000
QCR (40:40:20)	10,000	10,000	(25,000)	(250,000)
Repair (50:40:10)	2,500	2,000	500	5,000
QCR (40:40:10)	200	200	(500)	(5,000)
R (50:40:10)	50	40	10	100
QCR (40:40:20)	4	4	(10)	(100)
Total	197,754	172,244	0	0