2018

(b) A fruit drink processing company produces two types of fruit drinks (Mango and Pineapple). It has a factory consisting of two production divisions – **Processing** and **Bottling**, and a service division – **Store**. The factory and store are located in separate buildings.

The budgeted information at the activity level of 50 000 units for a one year period is as follows.

Description	Factory (Rs.)	Store (Rs.)	Total (Rs.)
Rent	180 000	50 000	230 000
Indirect wages	?	?	400 000
Electricity charges	120 000	30 000	150 000
Machinery insurance	90 000	20 000	110 000
Rates for buildings	90 000	30 000	120 000
Charges for security services	?	?	360 000

Description	Processing	Bottling	Store
Number of indirect employees	10	15	15
Floor area (square meters)	12 000	18 000	8 000
Production machinery cost (Rs.)	400 000	200 000	–
Cooling machine cost (Rs.)	–	–	250 000
Machine hours for the period	100 000	65 000	–
Number of security personnel	2	2	8
Total kilowatt hours for the period	3 000	2 000	1 000

Additional information:

(i) Production machinery and the cooling machine are depreciated annually at 10% and 8% respectively on straight-line method.

(ii) The total overheads of the Store is re-apportioned between **Processing** and **Bottling** divisions on the basis of cost of production machinery.

(iii) Overheads of the production divisions are absorbed based on machine hours.

(iv) The following information relates to a bottle of Mango Drink.

Description		Per one bottle
Actual time spent:	Processing Division	12 minutes
	Bottling Division	6 minutes
Direct costs:	Raw material	Rs. 6.40
	Labour	Rs. 5.00
Non-production variable overheads		Rs. 4.00

(v) Non-production fixed overheads is Rs. 300 000.

(vi) Profit margin is 20% on the selling price of each product.

Required :

(1) The Overhead Analysis Sheet showing clearly the bases of apportionment (including re-apportionment of Service Division overheads)

(2) Overhead absorption rates for two divisions – Processing and Bottling

(3) Cost of production per bottle of Mango Drink

(4) Budgeted selling price per bottle of Mango Drink

(10 marks)

(Total 20 marks)

ANSWER

(b) (1) Overhead Analysis Sheet (Rs.'000)

Item	bases of apportionment	Total	Production divisions		Service division
			Processing	Bottling	Stores
Stores rent	Direct	50			50
Stores electricity	Direct	30			30
Insurance - Cooling machine	Direct	20			20
Stores rate	Direct	30			30
Cooling machine depreciation	Direct	20			20
Factory rent	Floor area (2:3)	180	72	108	
Indirect wages	No. of indirect employees (2:3:3)	400	100	150	150
Factory electricity expenses	Kilowatt hours (3:2)	120	72	48	
Production machine insurance	Cost of production machinery (2:1)	90	60	30	
Factory rates	Floor area (3:2)	90	36	54	
Security service charges	No. of security personnel (1:1:4)	360	60	60	240
Production machine depreciation	Cost of machinery (2:1)	60	40	20	
		1 450	440	470	540
Re - apportionment of service division overheads	Cost of machinery (2:1)		360	180	(540)
		1 450	800	650	–

(2) Overhead absorption rates - Processing Division, Rs. 8 per machine hour
Bottling Division, Rs. 10 per machine hour

Workings

Processing Division - $\frac{800}{100}$ = Rs. 8 Bottling Division - $\frac{650}{65}$ = Rs. 10

(3) Cost of production per bottle of mango drink = Rs. 14

Workings				**Rs.**
Direct material				6.40
Direct labour				5.00
Overheads -	Processing -	$8 \times \frac{12}{60}$	=	1.60
	Bottling -	$10 \times \frac{6}{60}$	=	1.00
				14.00

(4) Budgeted selling price per bottle of mango drink = Rs. 30

Workings			**Rs.**
Production cost			14
Non-production variable overheads			4
Non-production fixed overheads	-	$\frac{300}{50}$	6
Total production cost	-		24
Profit	-		6
Selling price	-		30

or

Selling price = $\frac{24}{80} \times 100$

= Rs. 30