

QUESTION NO. 1

Number of units that must be sold:

(a) **If sales price is Rs. 325**

$$\text{Number of units} = \text{Rs. } 112,000 \div \text{Rs. } 49.20 = 2,276 \text{ units}$$

(b) **If sales price is Rs. 350**

$$\text{Number of units} = \text{Rs. } 112,000 \div \text{Rs. } 74.20 = 1,509 \text{ units}$$

WORKING:

Calculation of Gross Profit of the Last Year:

Sales 2,000 units × Rs. 280	Rs. 560,000
Less: Cost of goods sold	448,000
Gross profit (Rs. 560,000 × 25/125)	112,000

Calculation of Unit Cost of Last Year:

Total cost per unit	(Rs. 448,000 ÷ 2,000 units)	224
Materials cost per unit	(Rs. 224 × 40%)	89.60
Labour cost per unit	(Rs. 224 × 45%)	100.80
Factory overhead cost per unit	(Rs. 224 × 15%)	33.60

Calculation of Unit Cost of Coming Year:

Materials cost per unit	(Rs. 8,960 ÷ 25%)	112.00
Labour cost per unit	(Rs. 100,80 ÷ 25%)	126.00
FOH cost per unit	(Rs. 33.60 ÷ 12.5%)	37.80
Total		275.80

Calculation of Expected Gross Profit Per Unit:

$$\text{GP per unit} = \text{Sales price per unit} - \text{Total cost per unit}$$

(a) **If sales price is Rs. 325 per unit**

$$\text{GP per unit} = \text{Rs. } 325.00 - \text{Rs. } 275.80 = \text{Rs. } 49.20$$

(b) **If sales price is Rs. 350 per unit**

$$\text{GP per unit} = \text{Rs. } 350.00 - \text{Rs. } 275.80 = \text{Rs. } 74.20$$

QUESTION NO. 2

CALCULATION OF COST OF PRODUCTION:

	Piece Work	Halsey Plan	Rowan Plan
Material	40	40	40
Labour	67.5	56.25	60
FOH	101.25	84.37	90
Total	568.75	540.62	550

SUPPORTING CALCULATIONS:

Calculation of Direct Labour Cost:

(a) Piece Work Plan:		
The worker will get wages for 9 hour (i.e., the time allowed) irrespective of the time worked. Therefore,		
Direct labour cost	= Rs. 7.50 × 9 hours	Rs. 67.50
(b) Halsey Plan:		
Regular wages	(6 hours × Rs. 7.50)	Rs. 45.00
Premium	(3 hours × Rs. 7.50) × 50%	11.25
Total wages		Rs. 56.25
(c) Rowan Plan:		
Regular wages	(6 hours × Rs. 7.50)	Rs. 45.00
Premium	(3 hours + 9 hours) × (6 hours × Rs. 7.50)	15.00
Total wages		Rs. 60.00

QUESTION NO. 3

June		
Volume Variance:		Rs.
Applied FOH		64,000
Budgeted FOH		64,000
		Zero
Budgeted Variance:		Rs.
Budgeted FOH		64,000
Actual FOH		70,000
	(Dr.)	6,000
July		
Volume Variance:		Rs.
Applied FOH		48,000
Budgeted FOH		56,000
	(Dr.)	8,000
Budgeted Variance:		Rs.
Budgeted FOH		56,000
Actual FOH		56,000
		Zero

CALCULATIONS OF VARIABLE RATE:

High and Low Point Method:

	Budgeted Capacity	Budgeted FOH
High	8,000	64,000
Low	6,000	56,000
	2,000	8,000

$$\text{Variable rate} = \frac{\text{Rs. 800}}{2,000} = \text{Rs. 4 per ton}$$

Calculation of Fixed Cost:

$$\begin{aligned} \text{Fixed cost} &= \text{Budgeted F.O.H.} - \text{Variable F.O.H.} \\ &= 64,000 - (\text{Rs. 4} \times 8,000) = \text{Rs. 32,000} \end{aligned}$$

Calculation of Applied Rate:

$$\begin{aligned} &= \text{Fixed F.O.H. rate} + \text{Variable F.O.H. rate} \\ &= \frac{\text{Fixed cost}}{\text{Normal capacity}} + \text{Variable F.O.H. rate} \\ &= \frac{\text{Rs. 32,000}}{8,000} + \text{Rs. 4} \\ &= \text{Rs. 8} \end{aligned}$$

Over / Under Applied FOH:

Applied FOH (Rs. 8 × 9,000 tonns)		72,000
Actual FOH		71,000
	(Cr.)	1,000

Volume Variance:

Applied FOH		72,000
Budgeted FOH [Rs. 32,000 + (Rs. 4 × 9,000 tonns)]		68,000
	(Cr.)	4,000

Budgeted Variance:

Budgeted FOH		68,000
Actual FOH		71,000
	(Dr.)	3,000

QUESTION NO. 4

**Wajahat Industries
Cost of Production Report
For the month ended**

QUANTITY SCHEDULE:

Particulars	Units	Units
Units from preceding department	20,000	
Units added by department	16,000	36,000
Units completed and transferred	32,000	
Units still in process (100% material, 50% labour, 40% FOH)	3,000	
Units lost during process	1,000	36,000

Cost Charged to Production:	Total Cost Rs.	Units Cost Rs.
Cost received from preceding department	175,000	8.75
Cost Added in this Department:		
Direct material	166,250	4.75
Direct labour	117,250	3.50
Factory overhead	58,100	1.75
Total cost added		10
Adjustment in unit cost due to lost units		5
Total cost charged to production	516,600	15

Cost Accounted for as Follows:	Rs.	Rs.
Cost of units completed & transferred: (32,000 units × Rs. 15)		480,000
Cost of Units in Process:		
Previous: (3,000 units × Rs. 5)	15,000	
Current:		
Material = (3,000 units × 100% × Rs. 4.75)	14,250	
Labour = (3,000 units × 50% × Rs. 3.50)	5,250	
FOH = (3,000 units × 40% × Rs. 1.75)	2,100	36,600
Total		516,600

WORKING:

Equivalent Production:

$$\begin{aligned} \text{Material} &= 32,000 + (100\% \text{ of } 3,000) &= 35,000 \text{ units} \\ \text{Labour} &= 32,000 + (50\% \text{ of } 3,000) &= 33,500 \text{ units} \\ \text{FOH} &= 32,000 + (40\% \text{ of } 3,000) &= 33,200 \text{ units} \end{aligned}$$

Per Unit Costs:

$$\begin{aligned} \text{Material} &= 166,250 / 35,000 \text{ units} &= \text{Rs. } 4.75 \text{ per unit} \\ \text{Labour} &= 117,250 / 33,500 \text{ units} &= \text{Rs. } 3.50 \text{ per unit} \\ \text{FOH} &= 58,100 / 33,200 \text{ units} &= \text{Rs. } 1.75 \text{ per unit} \end{aligned}$$

Revised unit cost due to lost unit:

$$= \text{Rs. } 175,000 / 35,000 \text{ units} = \text{Rs. } 5 \text{ per unit}$$

QUESTION NO. 5

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Per unit cost = Rs. 425		Per unit cost = Rs. 410																										

QUESTION NO. 6

(a) Journal

Date	Particulars	L/F	Debit Rs.	Credit Rs.
	Materials		125,000	
	Voucher payable			125,000
	Work in process - Material		122,000	
	Work in process - Labour		80,000	
	Work in process - FOH		100,000	
	Materials			122,000
	Payroll			80,000
	FOH applied			100,000
	Finished goods		307,000	
	Work in process - Materials			118,000
	Work in process - Labour			85,000
	Work in process - FOH			104,000
	Cost of goods sold		304,000	
	Finished goods			304,000

Materials

	Rs.		Rs.
Balance b/d	20,000	Work in process - Materials	122,000
Purchases	125,000	Balance c/d	23,000
	145,000		145,000

Work in Process - Material

	Rs.		Rs.
Balance b/d	30,000	Fished goods	118,000
Materials	122,000	Balance c/d	34,000
	152,000		152,000

Work in Process - Labour

	Rs.		Rs.
Balance b/d	40,000	Finished goods	85,000
Pay roll	80,000	Balance c/d	35,000
	120,000		120,000

Work in process - Factory Overhead

	Rs.		Rs.
Balance b/d	50,000	Finished goods	104,000
FOH applied	100,000	Balance c/d	46,000
	150,000		150,000

Finished Goods

	Rs.		Rs.
Balance b/d	25,000	Cost of goods sold	304,000
WIP - Materials	118,000	Balance c/d	28,000
WIP - Labour	85,000		
WIP - FOH	104,000		
	332,000		332,000

(b)

Date	Particulars	L/F	Debit Rs.	Credit Rs.
	Finished goods		1,000	
	Cost of goods sold			1,000
	Sales return		1,200	
	Debtor			1,200

QUESTION NO. 7

Harris Manufacturing Co.
Cost of Goods Manufactured and Sold Statement
 For the period ended

Particulars	Rs.	Rs.
Direct Materials:		
Materials inventory	12,000	
Add: Purchases	120,000	
Materials available for use	132,000	
	15,000	
Cost of material used		117,000
Add: Direct labour		42,000
Add: Factory overhead		25,200
Total factory cost		184,200
Add: Work in process inventory		6,000
Cost of goods to be manufacturing		190,200
Less: Work in process inventory		4,000
Cost of goods manufactured		186,200
Add: Finished goods inventory		18,000
Cost of goods to be sale		204,200
Less: Finished goods inventory		21,000
Cost of goods sold at normal		183,200
Less: Over applied FOH		2,650
Cost of goods sold at actual		180,550

Calculation of Over / Under Applied Factory Overhead:

Superintendence	Rs. 5,500	
Heat and light	Rs. 4,000	
Insurance (fire and other)	Rs. 500	
Indirect materials used	Rs. 2,000	
Depreciation of building	Rs. 1,500	
Depreciation of equipment	Rs. 1,500	
Factory taxes	Rs. 1,000	
Employer's provident fund contribution (94% factory)	Rs. 4,700	
Tool expenses	Rs. 1,300	
Miscellaneous FOH costs	Rs. 550	Rs. 22,550
Applied factory overheads		Rs. 25,200
Over applied FOH		Rs. 2,650