



J.K. SHAH[®]
TEST SERIES
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SUGGESTED SOLUTION

CA INTERMEDIATE

SUBJECT- COSTING

Test Code – CIM 8431

BRANCH - () (Date :)

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ANSWER - 1

1. $EOQ = \sqrt{\frac{2AB}{C}}$ where

A = Annual Requirement of Raw Materials = 3,600 units (given)

B = Buying Cost per order = Rs. 40 per order (given)

C = Carrying Cost per unit per annum = Rs. 100 x 20% = Rs. 20 p.u. p.a.

On substitution, **EOQ = 120 units.**

(2 MARKS)

2. **Re-Order Level** = Safety Stock + Lead Time Consumption (1 month) = 100 units + $(3,600 \times \frac{1}{12})$
) = **400 units**

(1 MARK)

3. **EOQ vs Half-Yearly Purchase Policy**

Particulars	EOQ	Existing Policy (half-yearly)
(a) Quantity Ordered every time	120 units	$\frac{3,600}{2} = 1,800$ units
(b) Number of Orders p.a.	$\frac{3,600}{120} = 30$ orders	(Half-yearly) = 2 orders
(c) Buying Costs p.a. at Rs. 40	30 x Rs. 40 = Rs. 1,200	2 x Rs. 40 = Rs. 80
(d) Average Inventory	Safety Stock + $\frac{1}{2}$ EOQ = 100+60=160 units	$\frac{1}{2} \times 1,800 = 900$ units
(e) Value of Avg Inventory=(dx Rs. 100)	Rs. 16,000	Rs. 90,000
(f) Carrying Costs p.a. at 20% of (e)	Rs. 3,200	Rs. 18,000
(g) Associated Costs p.a.= (c + f)	Rs. 4,400	Rs. 18,080

- Anticipated reduction in the value of the Average Stock Investment = Rs. 90,000 - Rs.16,000 = **Rs. 74,000.**

- Anticipated Reduction in total inventory-related costs = Rs. 18,080 - Rs. 4,400 = **Rs.13,680**

However, in the first year, Safety Stock of 100 units is to be purchased at a cost of Rs. 10,000 (100 units x Rs. 100). So, while the saving would be of Rs. 13,680, the cost reduction in the system would be only Rs. 3,680. In subsequent years, however, the cost reduction will be Rs. 13,680.

Note: Alternative assumptions exist in treatment of Safety Stock and calculation of Reduction in Associated Costs.

(7 MARKS)

ANSWER – 2

ANSWER - A

Statement showing Earnings of Workers A and B

Workers	A (Rs.)	B (Rs.)
Basic Wages	100.00	160.00
Dearness Allowance (50% of Basic Wages)	50.00	80.00
Overtime Wages (Refer to Working Note 1)	15.00	----
Gross Wages earned	165.00	240.00
Less: Provident Fund (8% × Rs.100); (8% × Rs.160)	(8.00)	(12.80)
– ESI (2% × Rs.100); (2% × Rs.160)	(2.00)	(3.20)
Net Wages paid	155.00	224.00

(2 MARKS)

Statement of Labour Cost

	A (Rs.)	B (Rs.)
Gross Wages (excluding overtime)	150.00	240.00
Employer's contribution to P.F. and E.S.I.	10.00	16.00
	160.00	256.00
Ordinary wages Labour Rate per hour(Rs.160 ÷ 200 hours); (Rs.256 ÷ 200 hours)	0.80	1.28

(2 MARKS)

Statement Showing Allocation of Wages to Jobs

	Total Wages	Jobs		
		X	Y	Z
Worker A				
Ordinary Wages (4:3:3)	160.00	64.00	48.00	48.00
Overtime	15.00	--	15.00	--
Worker B				
Ordinary Wages(5:2:3)	256.00	128.00	51.20	76.80
	431.00	192.00	114.20	124.80

(3 MARKS)

Working Notes

(1 MARK)

1. Normal Wages are considered as basic wages

$$\begin{aligned}\text{Over time} &= \frac{2 \times (\text{Basic wage} + \text{D.A.}) \times 10 \text{ hours}}{200 \text{ hours}} \\ &= 2 \times \frac{\text{Rs.150}}{200} \times 10 \text{ hours} \\ &= 1.50 \times 10 \text{ hours} = \text{Rs.15}\end{aligned}$$

ANSWER - B**Stores Ledger under WAC Method**

Date	Trans	Receipts			Issues			Balance		
		Quantity	Rate	Value	Quantity	Rate	Value	Quantity	Rate	Value
Apr 1	Bal b/d							1,500	4.80	7,200
Apr 4	Issue				1,100	4.80	5,280	400	4.80	1,920
Apr 10	Receipt	1,600	5.00	8,000				2,000	4.96	9,920
Apr 20	Receipt	2,400	4.90	11,760				4,400	4.93	21,680
Apr 24	Issue				1,600	4.93	7,888	2,800	4.93	13,792
May 5	Receipt	1,000	5.10	5,100				3,800	4.97	18,892
May 10	Issue				1,500	4.97	7,455	2,300	4.97	11,437
May 17	Receipt	1,100	5.20	5,720				3,400	5.05	17,157
May 25	Receipt	800	5.25	4,200				4,200	5.09	21,357
May 26	Issue				1,700	5.09	8,653	2,500	5.08	12,704
May 31	Shortage				80	-	-	2,420	5.25	12,704
Jun 11	Receipt	900	5.40	4,860				3,320	5.29	17,564
Jun 15	Issue				1,500	5.29	7,935	1,820	5.29	9,629
Jun 21	Issue				1,200	5.29	6,348	620	5.29	3,281
Jun 24	Receipt	1,400	5.50	7,700				2,020	5.44	10,981
Jun 30	Shortage				60	-	-	1,960	5.60	10,981

Note:

- Closing Stock on 10th Apr is valued as $\frac{(400 \text{ kg} \times 4.80) + (1,600 \text{ kg} \times 5.00)}{2,000 \text{ kg}} = \text{Rs.}4.96 \text{ per kg.}$
Other days' Closing Stock balance is valued on the same principles.
- Since Shortage is treated as inflating the price of remaining material on account of shortage, it is not assigned any value / cost. The balance materials will be automatically valued at an inflated rate.

(10 MARKS)**ANSWER – 3****ANSWER - A**

$$(i) \text{ Re - order quantity} = \sqrt{\frac{2AO}{C \times i}}$$

$$= \sqrt{\frac{2 \times 7500 \times 12 \times 500}{60 \times 10}}$$

$$= 3,873 \text{ units}$$

(ii) Re-order level

$$= \text{Maximum re-order period} \times \text{Maximum usage}$$

$$= 8 \text{ weeks} \times 750 \text{ units per week}$$

$$= 6,000 \text{ units}$$

(iii) Minimum stock level

$$= \text{Re-order level} - \{\text{Normal usage} \times \text{Average reorder period}\}$$

$$= 6,000 - (500 \times 6.5)$$

$$= 2,750 \text{ units}$$

(iv) Maximum stock level

$$= \text{Re-order level} + \text{Re-order quantity} - (\text{Minimum usage} \times \text{Minimum re-order period})$$

$$= 6,000 + 3,873 - (5 \times 250)$$

$$= 8,623 \text{ units}$$

(v) Average stock level

$$= \frac{1}{2} (\text{Minimum stock level} + \text{Maximum stock level})$$

$$= \frac{1}{2} (2,750 + 8,623)$$

$$= 5,687 \text{ units}$$

(6 MARKS)

ANSWER – B

No. of units produced and approved = 2,000 units

Standard time = 40 units per hour

Hourly Wage Rate = Rs. 25

Time allowed = $\frac{2,000 \text{ units}}{40 \text{ units}}$ = 50 hours

Time Taken = (4 days \times 9 hours) + 4 hours = 40 hours

(i) Calculation of Remuneration under Halsey Plan:

Standard time allowed for 2,000 units : 50 hours

Actual time taken for 2,000 units : 40 hours

Time saved 10 hours

Basic wages for time taken 40 hours @ Rs. 25 Rs.1,000

Bonus: 50% of time saved $\left(\frac{50}{100} \times 10 \text{ hours} \times \text{Rs.}25 \right)$ Rs.125

Total remuneration Rs. 1,125

(6 MARKS)