SUGGESTED SOLUTION

CA INTERMEDIATE

SUBJECT- COSTING

Test Code – CIM 8640

BRANCH - () (Date :)

ANSWER – 1

Calculation of earnings under different wage schemes:

(i) Day wages

Worker	Day wages (₹)	Actual Output (Units)	Labour cost per 100 pieces (₹)
A	600	180	333.33
B	600	120	500.00
C	600	100	600.00
Total	1,800	400	

Average labour cost to produce 100 pieces:

$$= \frac{\text{Total wages paid}}{\text{Total output}} \times 100 = \frac{₹1,800}{400 \text{ units}} \times 100 = ₹ \ 450$$

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(2 MARKS)

(ii) Piece rate

Worker	Actual Output (Units)	Piece rate (₹)	Wages earned (₹)	Labour cost per 100 pieces (₹)
A	180	7.50	1,350	750.00
B	120	7.50	900	750.00
C	100	7.50	750	750.00
Total	400		3,000	

Average cost of labour for the company to produce 100 pieces:

$$= \frac{₹3,000}{400 \text{ units}} \times 100 = ₹ \ 750$$

(2 MARKS)

(iii)   Halsey Scheme

Worker	Actual Output (Units)	Std. time (Hrs.)	Actual time (Hrs.)	Time saved (Hrs.)	Bonus hours (50% of time saved)	Rate per hour (₹)	Total wages (₹)	Labour cost per 100 pieces (₹)
	A	B	C	D=B-C	E	F	G=F×(C+D)	H=G/A*100
A	180	18	8	10	5	75	975	541.67
B	120	12	8	4	2	75	750	625.00
C	100	10	8	2	1	75	675	675.00
Total	400						2,400	

Average cost of labour for the company to produce 100 pieces =

$$\frac{₹2,400}{400 \text{ units}} \times 100 = ₹600$$

(iv)   Rowan Scheme:

Worker	Actual Output (Units)	Std. time (Hrs.)	Actual time (Hrs.)	Time saved (Hrs.)	Bonus hours*	Rate per hour (₹)	Total wages including bonus (₹)	Labour cost per 100 pieces (₹)
	A	B	C	D=B-C	E	F	G=F×(C+D)	H=G/A*100
A	180	18	8	10	4.44	75	933	518.33
B	120	12	8	4	2.67	75	800	666.67
C	100	10	8	2	1.60	75	720	720.00
Total	400						2,453	

$$\text{* Bonus hours} = \frac{\text{Time Saved}}{\text{Std. Time}} \times \text{Actual time}$$

Average cost of labour for the company to produce 100 pieces

$$= \frac{₹2,453}{400 \text{ units}} \times 100 = ₹613.25$$

ANSWER – 2

ANSWER - A

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

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

= 3,873 units

(ii) Re-order level

= Maximum re-order period X Maximum usage

= 8 weeks X 750 units per week

= 6,000 units

(iii) Minimum stock level

= Re-order level – {Normal usage X Average reorder period}

= 6,000 – (500 X 6.5)

= 2,750 units

(iv) Maximum stock level

= Re-order level + Re-order quantity – (Minimum usage X Minimum re-order period)

= 6,000 + 3,873 – (5 X 250)

= 8,623 units

(v) Average stock level

= ½ (Minimum stock level + Maximum stock level)

= ½ (2,750 + 8,623)

= 5,687 units

(6 MARKS)

ANSWER – B

(i) Calculation of Economic Order Quantity

EOQ $= \sqrt{\dfrac{2AO}{C}} = \sqrt{\dfrac{2 \times 12,000\ units \times Rs.1,800}{Rs.640 \times 18.75\ /100}}$ = 600 units

(1 MARK)

(ii) **Evaluation of Profitability of Different Options of Order Quantity**

When EOQ is ordered

	(Rs.)
Purchase Cost (12,000 units × Rs. 640)	76,80,000
Ordering Cost $\left[\frac{A}{Q} \times O - (12{,}000\ units\ /600\ units) \times Rs.\ 1{,}800\right]$	36,000
Carrying Cost $\left(\frac{Q}{2} \times C \times i - 600\ units\ \times Rs.\ 640\ \times {}^{1}/_{2} \times 18.75/100\right)$	36,000
Total Cost	77,52,000

(b) **When Quantity Discount is accepted**

	(Rs.)
Purchase Cost (12,000 units × Rs. 608)	72,96,000
Ordering Cost $\left[\frac{A}{Q} \times O\ (12{,}000 units/\ 3000\ units) \times Rs.\ 1{,}800\right]$	7,200
Carrying Cost $\left[\frac{Q}{2} \times C \times i(3{,}000\ units\ \times Rs.\ 608\ \times {}^{1}/_{2} \times 18.75/100)\right]$	1,71,000
Total Cost	74,74,200

Advise - The total cost of inventory is higher if EOQ is adopted. If M/s. X Private Limited gets a discount of 5% on the purchases of "SKY BLUE" (if order size is 3,000 components at a time), there will be financial benefit of Rs. 2,77,800 (77,52,000 – 74,74,200). However, order size of big quantity will increase volume of average inventory to 5 times. There may be risk of shrinkage, pilferage and obsolescence etc., of inventory due to increase in the average volume of inventory holding. This aspect also has to be taken into consideration before opting the discount offer and taking final decision.

(5 MARKS)