SUGGESTED SOLUTION

CA INTERMEDIATE

SUBJECT- COSTING

Test Code – CIM 8658

BRANCH - () (Date :)

ANSWER -1

Cost sheet for the year ended 31st March, 2018.

Units produced – 14,000 units

Units sold – 14,153 units

Particulars	Amt. (Rs.)
Raw materials purchased	42,25,000
Add : Freight Inward	1,00,000
Add : Opening value of raw materials	2,28,000
Less : Closing value of raw materials	(3,05,000)
	42,48,000
Less : Sale of scrap of material	8,000
Materials consumed	42,40,000
Direct Wages (12,56,000 + 1,50,000)	14,06,000
Prime Cost	56,46,000
Factory overheads (20% of Rs. Prime Cost)	11,29,200
Add : Opening value of W – I – P	1,92,500
Less : Closing value of W – I – P	(1,40,700)
Factory Cost	68,27,000
Add : Administrative overheads	1,73,000
Cost of Production	70,00,000
Add : Value of opening finished stock	6,08,500
Less : Value of closing finished stock	6,08,500
[Rs. 500 (70,00,000/14,000) × 1,064)	
(1,217 + 14,000 – 14,153 = 1,064 units)	(5,32,000)
Cost of Goods sold	70,76,500
Distribution expenses (Rs. 16 × 14,153 units)	2,26,448
Cost of Sales	73,02,948
Profit (Balancing figure)	14,43,606
Sales (Rs. 618 × 14,153 units)	87,46,554

(10 MARKS)

ANSWER -2

(1)   A = Annual usage of parts = Monthly demand for monitors × 4 parts × 12 months

= 2,000 monitors × 4 parts × 12 months = 96,000 units

O = Ordering cost per order = Rs. 1,000 / - per order

C_1 = Cost per part = Rs. 350/-

$_iC_1$ = Inventory carrying cost per unit per annum

= 20% × Rs. 350 = Rs. 70 /- per unit, per annum

Economic order quantity (EOQ) :

$$E.O.Q. = \sqrt{\frac{2AO}{iC_1}} = \sqrt{\frac{2 \times 96{,}000 \text{ units} \times Rs.1{,}000}{Rs.70}}$$

= 1,656 parts (approx.)

The supplier is willing to supply 30,000 units at a discount of 5%, therefore cost of each part shall be Rs. 350 – 5% of 350 = Rs. 332.5

Total cost (when order size is 30,000 units) :

= Cost of 96,000 units + Ordering cost + Carrying cost.

= (96,000 units × Rs. 332.50) + $\left(\frac{96{,}000 \text{ units}}{30{,}000 \text{ units}} \times Rs.1{,}000\right)$ + $\frac{1}{2}$ (30,000 units × 20% × Rs. 332.50)

= Rs. 3,19,20,000 + Rs. 3,200* + Rs. 9,97,500 = Rs. 3,29,20,700

Total cost (when order size is 1,656 units) :

= (96,000 units × Rs. 350) + $\left(\frac{96{,}000 \text{ units}}{1{,}656 \text{ units}} \times Rs.1{,}000\right)$ + $\frac{1}{2}$ (1,656 units × 20% × Rs. 350)

= Rs. 3,36,00,000 + Rs. 57,970* + Rs. 57,960 = Rs. 3,37,15,930

Since, the total cost under the supply of 30,000 units with 5% discount is lower than that when order size is 1,656 units, therefore the offer should be accepted.

Note : While accepting this offer consideration of capital blocked on order size of 30,000 units has been ignored.

*Order size can also be taken in absolute figure.

(4 MARKS)

(2)   Reorder level

= Maximum consumption × Maximum re – order period

= 710 units × 5 weeks = 3,550 units

(1 MARK)

(3)   Maximum level of stock

= Re – order level + Reorder quantity – (Min. usage × Min. reorder period)

= 3,550 units + 1,656 units – (140 units × 3 weeks) = 4,786 units.

(1 MARK)

(4)   Minimum level of stock

Re – order level – Normal usage × Average reorder period

= 3,550 units – (425 units × 4 weeks) = 1,850 units.

(1 MARK)

ANSWER -3

Particulars	Super Grow Fertilizer	Nature's Own Fertilizer
1. A = Annual Requirement of RM	2,000 Bags	1,280 Bags
2. B = Buying Cost per order	Rs. 1,200	Rs. 1,400
3. C = Carrying Cost per bag per annum	Rs. 480	Rs. 560
4. $EOQ=\sqrt{\dfrac{2AB}{C}}$	$\sqrt{\dfrac{2 \times 2{,}000 \text{ bags} \times Rs.1{,}200}{Rs.480}}$ = 100 bags	$\sqrt{\dfrac{2 \times 1{,}280 \text{ bags} \times Rs.1{,}400}{Rs.560}}$ = 80 bags
5. Number of Orders p.a. = $\dfrac{A}{Q}$	$\dfrac{2{,}000 \text{ bags}}{100 \text{ bags}}$ =20 orders	$\dfrac{1{,}280 \text{ bags}}{80 \text{ bags}}$ = 16 orders
6. Buying Costs p.a. = (2) x (5)	20 x Rs. 1,200 = Rs. 24,000	16 x Rs. 1,400 = Rs. 22,400
7. Average Inventory = 1/2 of (4)	1/2 x 100 = 50 bags	1/2 x 80 = 40 bags
8. Carrying Costs p.a. = (3) x (7)	50 x Rs. 480 = Rs. 24,000	40 x .560 = Rs. 22,400
9. Relevant Associated Costs p.a. (6+8)	Rs. 48,000	Rs. 44,800

(8 MARKS)

ANSWER -4

Input – Output Relation
1 bag = 1 metre of cotton cloth
Therefore 1000 meter cotton cloth = 1000 units of bags because here opening stock and closing stock of input are zero. Therefore total input purchased = total input consumed

No. of bags manufactured = 1,000 units

Cost sheet for the month of September 2019

	Particulars	Total Cost (Rs.)	Cost per unit (Rs.)
1.	Direct materials consumed:		
	- Leather sheets	3,20,000	320.00
	- Cotton cloths	15,000	15.00
	Add: Freight paid on purchase	8,500	8.50
2.	Direct wages (Rs.80 × 2,000 hours)	1,60,000	160.00

3.	Direct expenses (Rs.10 × 2,000 hours)	20,000	20.00
4.	**Prime Cost**	**5,23,500**	523.50
5.	Factory Overheads: Depreciation on machines	16,500	16.50
	{(Rs.22,00,000×90%)÷120 months}		
	Apportion cost of factory rent	98,000	98.00
6.	Works/ Factory Cost	6,38,000	638.00
7.	Less: Realisable value of cuttings (Rs.150×35 kg.)	(5,250)	(5.25)
8.	Cost of Production	6,32,750	632.75
9.	Add: Opening stock of bags	0	
10.	Less: Closing stock of bags (100 bags × Rs.632.75)	(63,275)	
11.	Cost of Goods Sold	5,69,475	632.75
12.	Add: Administrative Overheads:		
	- Staff salary	45,000	45.00
	- Apportioned rent for administrative office	12,000	12.00
13.	Add: Selling and Distribution Overheads		
	- Staff salary	72,000	80.00
	- Apportioned rent for sales office	10,000	11.11
	- Freight paid on delivery of bags	18,000	20.00
14.	Cost of Sales (18+19+20)	7,26,475	800.86

Apportionment of Factory rent:

To factory building {(Rs.1,20,000 ÷ 2400 sq.feet) × 1,960 sq. feet} = Rs.98,000

To administrative office {(Rs.1,20,000 ÷ 2400 sq.feet) × 240 sq. feet} = Rs.12,000

To sale office {(Rs.1,20,000 ÷ 2400 sq.feet) × 200 sq. feet} = Rs.10,000

(10 MARKS)

ANSWER -5

ANSWER –A

Item	Journal Entry in Control Accounts	Entry in Subsidiary Stores Ledger
A	Stores Adjustment A/c Dr. 10 To Stores Ledger Control A/c 10 (Being Normal Loss of 5 units at Rs. 2 per unit).Note: Stores Adjustment A/c balance will thereafter be transferred to Production OH Control A/c.	Normal Shrinkage will be shown as an **issue of 5 units at Rs. 2 per unit.** Where Issue Price is already inflated to cover normal shrinkage, **only quantity column** (and not rate) should be updated / filled up.
B	Material Abnormal Loss A/c Dr. 180 To Stores Ledger Control A/c 180 (Being Obsolete materials transferred to Abn Loss).	60 units at Rs. 3 will be shown as an **issue** in the relevant Stores Ledger column.

	General Ledger Adjustment A/c Dr. 100 To Material Abnormal Loss A/c100 (Being sale value of obsolete materials). **Note:** Balance in Material Abnormal Loss A/c will be transferred to Costing P & L Account.	
C	Material Abnormal Loss A/c Dr. 50 To Stores Ledger Control A/c 50 (Being loss by theft, i.e. 50 units at Rs.1) **Note:** Balance in Material Abnormal Loss A/c will be transferred to Costing P& L Account.	50 units at Rs. 1 will be shown as an **issue** in the relevant Stores Ledger column.
D	Stores Ledger Control A/c Dr. 200 To General Ledger Adjt A/c 200 (Being omission of entry 100 units at Rs. 2 recorded) Stores Ledger Control A/c Dr. 100 To WIP Ledger Control A/c 100 (Being errors in material issues, now rectified)	100 units at Rs. 2 should be recorded on the **Receipts Column** of Stores Ledger. Issues Column should be rectified / **reduced by 50 units at Rs. 2** and the correct Closing Stock should be updated. **(Note:** Receipt Column should not be updated for correction of errors in issue)
E	General Ledger Adjustment A/c Dr. 60 To Stores Ledger Control 50 To Material Purchase Price Variance 10 (Being 20 units returned to Supplier, now recorded, the difference between Invoice Price and Standard Cost adjusted against Purchase Price Variance A/c)	20 units at Rs. 2.50 (Current Standard Cost) should be shown as an issue in the Stores Ledger, and the correct Closing Stock should be updated.(Note: Refer Chapter 11 Standard Costing for Journal Entries in respect of Variance Analysis.)
F	No entry necessary in Cost Ledger.	No entry in Subsidiary Stores Ledger. However, Stock Sheets should be adjusted to reflect the correct balance.

(8 MARKS)

ANSWER –B

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

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.**

(1 MARK)

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

) = **400 units**

(1 MARK)

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

Particulars	EOQ	Existing Policy (half-yearly)
(a) Quantity Ordered every time	120 units	$\frac{3,600}{2} = 1,800 \text{ units}$
(b) Number of Orders p.a.	$\frac{3,600}{120} = 30 \text{ orders}$	(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 + 1/2 EOQ = 100+60=160 units	1/2 x 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.

(5 MARKS)