SUGGESTED SOLUTION

CA INTERMEDIATE NOV'19

SUBJECT- COSTING

Test Code - CIM 8377

BRANCH - () (Date :)

ANSWER-1

ANSWER-A

(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. = $\sqrt{\dfrac{2AO}{iC_1}}$ = $\sqrt{\dfrac{2 \times 96,000 \ units \times Rs.1,000}{Rs.70}}$

= 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) + $\left(\dfrac{96,000 \ units}{30,000 \ units} \times Rs. 1,000\right)$ + $\dfrac{1}{2}$ (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) + $\left(\dfrac{96,000 \ units}{1,656 \ units} \times Rs. 1,000\right)$ + $\dfrac{1}{2}$ (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.

(2)   Reorder level

= Maximum consumption × Maximum re – order period

= 710 units × 5 weeks = 3,550 units

(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.

(4)   Minimum level of stock

Re – order level – Normal usage × Average reorder period

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

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(5 marks)

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ANSWER-B

(i)   Calculation of Economic Order Quantity

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

(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 $\left(\frac{Q}{2} \times C \times i - 600 \ units \ \times Rs.640 \ \times \frac{1}{2} \times 18.75/100\right)$	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 $\left[\frac{Q}{2} \times C \times i \ (3,000 \ units \ \times Rs.608 \ \times \frac{1}{2} \times 18.75/100)\right]$	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.

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(5 marks)

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ANSWER-2

(i) Total equivalent single room suites

Nature of suite	Occupancy (Room-days)	Equivalent single room suites (Room-days)
Single room suites	36,000 (100 rooms x 360 days x 100%)	36,000 (36,000 x 1)
Double rooms suites	14,400 (50 rooms x 360 days x 80%)	36,000 (14,400 x 2.5)
Triple rooms suites	6,480 (30 rooms x 360 days x 60%)	32,400 (6,480 x 5)
		1,04,400

(3 marks)

(ii) Statement of total cost:

	(Rs.)
Staff salaries	14,25,00,000
Room attendant's wages	4,50,00,000
Lighting, heating and power	2,15,00,000
Repairs and renovation	1,23,50,000
Laundry charges	80,50,000
Interior decoration	74,00,000
Sundries	1,53,00,000
	25,21,00,000
Building rent {(Rs.10,00,000 ⨯ 12 months) + 5% on total taking}	1,20,00,000+ 5% on total takings
Total cost	26,41,00,000 + 5% on total takings

Profit is 20% of total takings

Total takings = Rs. 26,41,00,000 + 25% (5% +20%) of total takings Let x

be rent for   single room suite

Then 1,04,400 x = 26,41,00,000 + 0.25 × 1,04,400 x

Or, 1,04,400 x = 26,41,00,000 + 26,100 x

Or, 78,300 x = 26,41,00,000

Or, x = 3,373

(5 marks)

(ii) Rent to be charged for single room suite = Rs. 3,373

Rent for double rooms suites Rs. 3,373 x 2.5 = Rs. 8,432.5

Rent for triple rooms suites Rs. 3,373 x 5 = Rs. 16,865

(2 marks)

ANSWER-3

A.

Cost control	Cost Reduction
1. Cost control aims at maintaining the costs in accordance with the established standards.	1. Cost reduction is concerned with reducing costs. It challenges all standards and endeavours to better them continuously.
2. Cost control seeks to attain lowest possible cost under existing conditions.	2. Cost reduction recognises no condition as permanent, since a change will result in lower cost.
3. In case of cost control, emphasis is on past and present	3. In case of cost reduction, it is on present and future.
4. Cost control is a preventive function	4. Cost reduction is a corrective function. It operates even when an efficient cost control system exists.
5. Cost control ends when targets are achieved.	5. Cost reduction has no visible end.

(5 marks)

B.

(i) **Controllable costs :** Cost that can be controlled, typically by a cost, profit or investment centre manager is called controllable cost. Controllable costs incurred in a particular responsibility centre can be influenced by the action of the executive heading that responsibility centre. For example, direct costs comprising direct labour, direct material, direct expenses and some of the overheads are generally controllable by the shop level management. **(2.5 marks)**

(ii) **Uncontrollable Costs -** Costs which cannot be influenced by the action of a specified member of an undertaking are known as uncontrollable costs. For example, expenditure incurred by, say, the tool room is controllable by the foreman in – charge of that section but the share of the tool – room expenditure which is apportioned to a machine shop is not to be controlled by the machine shop foreman. **(2.5 marks)**

ANSWER-4

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

Units produced – 14,000 units

Unit sold – 14,153 units

Particulars	Amount (Rs.)
Raw material purchased	42,25,000
Add : Freight Inward	1,00,000
Add : Opening value of raw material	2,28,000
Less : Closing value of raw materials	(3,05,000)
	42,48,000
Less : Sale of scrap of material	8,000
Material 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 [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-5

Operating Cost Sheet

Fixed Cost:

Salaries 800 x 12	Rs. 9,600
Gate-keepers 10 x 200 x 12	24,000
Operators 2 x 400 x 12	9,600
Clerks 4 x 250 x 12	12,000
Administration Expenses	18,000

Depreciation:	
Premises Rs. 6,00,000 ÷15	40,000
Projector and Equipment 3,20,000 x 0.10	32,000
Total Fixed Cost	1,45,200
Variable Costs:	
Electricity and oil	11,655
Carbon	7,235
Misc. expenses	5,425
Advertisements	34,710
Hire of print	1,40,700
Total variable costs	1,99,725
Total cost	3,44,925
Add: 30% return on gross proceeds or 3/7 of cost	1,47,825
Gross Proceed	4,92,750
Total man-shows (refer to calculation below)	9,85,500
Cost per man-show	Re.0.50

(4 marks)

Rate for each class:

Janata cost per man-show x weightage i.e., 0.50 x 1 = Re. 0.50

Sanman cost per man-show x weightage i.e., 0.50 x 2 = Re. 1.00

Lord's cost per man-show x weightage i.e., 0.50 x 3 = Rs. 1.50   **(1 mark)**

Computation of man-shows :

No. of seats : Janata	= 250 seats
Sanman circle	= 250 seats
Lord's circle	= 125 seats
With weightage (i.e., express all seats in terms of Janata)	
Janata 250 x 1 =	250 seats
Sanman circle 250 x 2 =	500 seats
Lord's circle 125 x 3 =	375 seats
	1,125 seats
No. of shows: 3	
∴ Total weighted seats = 1,125 x 3 =	3,375 seats
Less : 20% vacant seats	675
	2,700

Man-shows per annum = 2,700 x 365 =   9,85,500

(3 marks)

Notes :

1.   Management expects 30% return on gross proceeds

        Gross Proceeds   100

        Return 30%   30

        Cost   70

        It means relation to return to cost = 3/7

2.   In this question, it is necessary to understand weightage concept. Whenever weightage is given, express the items having higher weightage in terms of item having lowest weightage so that all items can be expressed equally.   **(2 marks)**