

CAP-II, Cost & Management Accounting, June 2012
Suggested Answer

Roll No.....

Maximum Marks - 100

Total No. of Questions: 6

Total No. of Printed Pages - 5

Time Allowed - 3 Hours

Marks

All questions are compulsory. Working notes should form part of the answer.
Make assumptions wherever necessary.

1. Exclusive Cable Ltd. manufactures plastic pipes (Normal) from a material which gets completed in two processes; Fabrication and Finishing. The details of material used and expenses for production of the Normal Product for the month of Chaitra 2068 were as below:

Fabrication Process:

15,000 kgs of material were used during the month and out of the same, 13,500 kgs were fabricated and transferred to Finishing Process and 1,500 kgs remained as work-in-progress. The closing work-in-progress was $\frac{1}{3}$ rd completed in respect of labour and overheads. There was no work-in-progress at the beginning of the month. The cost of material used was Rs.1,800,000 and cost of labour and overheads incurred in the process was Rs. 414,000.

Finishing Process:

There were 900 kgs of product in work-in-progress at the beginning of the month. The opening work-in-progress was $\frac{1}{3}$ rd completed in respect of labour and overheads. The cost of work-in-progress was Rs. 141,000. At the end of the month there were 600 kgs of product as work-in-progress. The closing work-in-progress was 25% complete in respect of labour and overheads. The company incurred Rs. 273,000 for labour and overheads in this process during the month.

The finished product (Normal) produced after completion of Finishing Process is sold at Rs. 200 per kg.

Seeing the demand for durable products to be used in buildings, the management of the company is considering production of more durable and better plastic pipes (Advanced) by further treatment of the finished product (Normal) of Finishing Process. This Advanced product could be sold at Rs. 235 per kg in the market. The treatment plant installation costs Rs. 8,000,000 and the cost for treating the quantity produced by Finishing Process in the month is estimated to be Rs. 345,000. For the implementation of this plan, the management desires a minimum return on investment of 25% per annum.

Required:

(8+4+2+6=20)

- a) Prepare equivalent unit statement for both processes and show the cost of closing stock and completed units.
- b) Prepare process accounts.
- c) Prepare profitability statement of the Normal Product.
- d) Determine whether the implementation of the management's plan to produce Advanced Product is acceptable.

Answer No. 1

a)

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Equivalent Unit Statement for Fabrication Process

Particulars	Material	Completion %	Labour & Overheads	Completion %
Opening WIP (kgs) (work done in this period)	-	-	-	-
Completed Unit (kgs) (Input - Closing Stock)	13,500	100	13,500	100
Closing WIP (kgs) (work done in this period)	1,500	100	500	33.33
Total Equivalent Units (kgs) (work done in this period)	15,000		14,000	
Cost incurred (Rs.)	1,800,000		414,000	
Cost per equivalent unit (Rs.)	120		29.57	

Cost of Closing Stock of WIP	Rs.
Material Cost (1500 kgs x Rs.120)	180,000
Labour cost (500 kgs x Rs.29.57)	14,785
Total	<u>194,785</u>

Cost of completed stock (transferred to next process)	Rs.
Cost of Opening stock of WIP	-
Material Cost of input	1,800,000
Labour cost incurred	414,000
Less: cost of closing stock of WIP	194,785
Total	<u>2,019,215</u>

Equivalent Unit Statement for Finishing Process

Particulars	Material	Completion %	Labour & Overheads	Completion %
Opening WIP (kgs) (work done in this period)	-	-	600	66.67
Completed Unit (kgs) (Input - Closing Stock)	12,900	100	12,900	100
Closing WIP (kgs) (work done in this period)	600	100	150	25
Total Equivalent Units (kgs) (work done in this period)	13,500		13,650	
Cost incurred (Rs.)	2,019,215		273,000	
Cost per equivalent unit (Rs.)	149.57		20	

Cost of Closing Stock of WIP	Rs.
Material Cost (600 kgs x 149.57)	89,742
Labour Cost (150 kgs x 20)	3,000
Total	<u>92,742</u>

Cost of completed stock	Rs.
Cost of Opening stock of WIP	141,000
Material Cost of input	2,019,215
Labour cost incurred	273,000
Less: cost of closing stock of WIP	92,742
Total	<u>2,340,473</u>

Assumption: FIFO method of inventory issue for production process.

b)

Fabrication Process A/c

Particulars	Unit (Kg)	Amount (Rs.)	Particulars	Unit (Kg)	Amount (Rs.)
To materials a/c	15,000	1,800,000	By Finishing Process a/c	13,500	2,019,215
To labour & overheads a/c		414,000	By closing stock (WIP) a/c	1,500	194,785
	15,000	2,214,000		15,000	2,214,000

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Finishing Process A/c

Particulars	Unit (Kg)	Amount (Rs.)	Particulars	Unit (Kg)	Amount (Rs.)
To opening stock (WIP) a/c	900	141,000	By Finished stock a/c	13,800	2,340,473
To Fabrication process a/c	13,500	2,019,215	By closing stock (WIP) a/c	600	92,742
To labour & overheads a/c		273,000			
	14,400	2,433,215		14,400	2,433,215

c)

Profitability Statement of Normal Product

Particulars	Amount (Rs.)
Sales (13800 kgs @ Rs.200 per kg.)	2,760,000
Less: cost of production (from finishing process)	2,340,473
Profit for the month	419,527

d)

Statement of evaluation of management's plan of further treatment of Normal Product

Particulars	Amount (Rs.)	Amount (Rs.)
Sales after further treatment (13800 kgs @ Rs.235/kg)		3,243,000
Less: Cost of Production		
Cost of Normal Product from Finishing Process	2,340,473	
Further treatment cost incurred	345,000	2,685,473
Profit per month		557,527
Less: Profit per month without further treatment		419,527
Additional profit per month due to further treatment		138,000

Return on Investment (%)
(138000 x 12 x 100/ 8,000,000)

20.70% per annum

Recommendation:

Considering the management's desired rate of return on investment of 25%, the plan of further treatment is not acceptable because it gives only 20.70% of return on investment.

2.

- a) Cello Pen Company established a separate ball pen unit in year 2010 with normal capacity of 240,000 units per year. The company is selling ball pen for Rs. 35 per unit. Following data and information are available for the year 2011:

Opening stock	52,000 unit
Unit produced	234,000 unit
Units sold	240,000 unit
Direct material cost	Rs.6 per unit
Direct Labour cost	Rs.6 per unit
Variable manufacturing overhead	Rs.3 per unit
Fixed manufacturing overhead	Rs.1,200,000
Variable Administrative overhead	Rs. 0.80 per unit
Fixed Administrative overhead	Rs.120,000
Variable selling and administrative overhead	Rs.2 per unit
Fixed selling and administrative overhead	Rs.240,000

Required:

(8+2+3+2=15)

- i) Prepare profitability statement under marginal costing and absorption costing method.

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- ii) Prepare reconciliation statement of profitability under marginal costing and absorption costing method.
- iii) Suggest the level of sales volume and sales unit where company will make neither profit nor loss from the ball pen unit.
- iv) How many units are to be sold to earn a profit of 25% on cost?
- b) One of your friends established a vehicle-repairing workshop and was worried about the increasing cost of operation and decreasing margin. He was from engineering background so have little knowledge of accounting. He wishes to appoint a cost auditor for review of his existing system but he is confused about the purpose of cost audit. Describe the purpose of cost audit and suggest your friend.

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Answer No. 2

a)

i) Statement of Profitability under Marginal costing

Particulars	Rs.
A. Total Sales (240,000 units × Rs. 35 p. u.)	84,00,000
Less: Variable Cost	
Direct Material(234,000 units × Rs. 6 p. u.)	14,04,000
Direct Labour(234,000 units × Rs. 6 p. u.)	14,04,000
Variable manufacturing cost (234,000 units × Rs. 3 p. u.)	702,000
Add : Opening Stock (52,000 × Rs. 15)	7,80,000
Less: Closing Stock (46,000× Rs. 15)	(6,90,000)
Variable cost of goods sold	36,00,000
Add : Variable Administrative Overhead (0.8×2,40,000)	1,92,000
Variable selling and distribution overhead (2×240000)	4,80,000
B. Total Variable Cost	42,72,000
C. Contribution	41,28,000
D. Less: Fixed Cost:	
Manufacturing	(12,00,000)
Administrative	(1,20,000)
Selling and Distribution	(2,40,000)
Profit under marginal costing	25,68,000

Statement of Profitability under absorption costing

Particulars	Rs.
A.Total Sales	84,00,000
Less: Manufacturing cost of Goods Sold	
Direct Material	14,04,000
Direct Labour	14,04,000
Variable manufacturing cost	702,000
Fixed Production Overhead (12,00,000/2,40,000×234,000)	11,70,000
B. Manufacturing cost of Goods Produced	(46,80,000)
Add : Opening Stock (52,000 units × Rs. 20) (W.N. 1)	10,40,000
Less: Closing Stock (46,000 × Rs. 20)	(9,20,000)
Adjusted cost of Goods Sold	48,00,000
Add: Under-absorption of overhead (5×6,000)	30,000
a. Cost of goods Sold	48,30,000
D. Gross Profit (A-C)	35,70,000
Less: Variable Administrative Overhead (0.8×2,40,000)	(192,000)
Fixed Administrative Overhead	(120,000)

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Variable selling and distribution overhead (2×240000)	(4,80,000)
Fixed Selling and distribution overhead	(2,40,000)
Profit under absorption costing	25,38,000

W.N. 1:

Total Manufacturing cost of goods produced Rs. 46,80,000

No. of units manufactured 234,000

∴ Cost per unit Rs. 20

ii) Reconciliation of profit under Marginal costing and absorption costing

Particulars	Rs.
Profit under marginal costing	25,68,000
Add: Fixed Manufacturing overhead in closing stock (46,000×5)	230,000
Less: Fixed Manufacturing overhead in Opening stock (52,000×5)	(2,60,000)
Profit under absorption costing	25,38,000

iii) Calculation of break-even-point

$$\begin{aligned} \text{P/V ratio} &= \text{contribution/sales} \times 100 \\ &= 41,28,000/84,00,000 \times 100 = 49.142\% \end{aligned}$$

$$\begin{aligned} \text{Contribution per unit} &= \text{Sales price per unit} - \text{Variable cost per unit} \\ &= \text{Rs.35} - \text{Rs.17.80} \\ &= \text{Rs.17.20} \end{aligned}$$

$$\begin{aligned} \text{Break-even point} &= \text{Fixed cost/ P/V ratio} \\ &= 15,60,000/49.142\% \\ &= \text{Rs.31,74,474} \end{aligned}$$

$$\begin{aligned} \text{Break-even-point (units)} &= \text{Fixed cost/contribution per unit} \\ &= 15,60,000/17.20 \\ &= 90,698 \text{ unit} \end{aligned}$$

iv) Sales unit to earn 25% profit on cost; i.e. 20% on sales

$$\text{Sales} = (\text{Fixed cost} + \text{Desired Profit}) / \text{P/V Ratio}$$

Let sales be X

$$\text{Then } X = (15,60,000 + 20\% \text{ of } X) / 49.142\%$$

$$\text{Or, } 49.142\% X = 15,60,000 + 0.2X$$

$$X = \text{Rs.} 1,560,000 / 0.29142$$

$$= \text{Rs. } 5,353,099$$

$$\therefore \text{Sales in unit} = 5,353,099 / 35 = 152,946 \text{ units}$$

- b) The purpose of cost audit is to examine whether the methods used for ascertaining cost and other decisions are being properly implemented and whether cost accounting plan has been adhered to or not.

Mainly we could classify purpose of cost auditing as; i) Protective and ii) constructive

Protective purpose of cost audit: Cost audit aims at examining that there is no undue wastage or loss and costing system brings out the correct and realistic cost of production or processing.

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Constructive purpose of cost audit: cost audit can provide information useful in regulating production; choosing economical methods of operation, reducing operating cost and reformulating plans etc. on the basis of findings during the course of cost audit.

So I will suggest my friend to hire cost auditor having knowledge of vehicle repairing workshop, who can help him using protective and constructive module of cost audit

3.

- a) A company uses an old method of machining a part manufactured for sale. The estimate of operating details for the year 2011 – 12 are as under:

Number of parts to be manufactured and sold	30,000
Raw materials required per part	10 kg @ Rs. 2 per kg
Average wage rate per worker	Rs. 40 per day of 8 hours
Average labour efficiency	60%
Standard time required for manufacturing one part	2 hours
Overhead rate	Rs. 10 per clock hour
Material handling expenses	2% of the value of raw materials

The company has a suggestion box scheme and an award equivalent to three months saving in labour cost is passed on to the employee whose suggestion is accepted. In response to this scheme suggestion has been received from an employee to use a special Jig in the manufacture of aforesaid part. The cost of Jig which has life of one year is Rs. 31,500 and the use of the Jig will reduce the standard time by 20 minutes and labour efficiency will increase by 20%.

Required:

(5+5=10)

- i) Compute the amount of award payable to the employee who has given the suggestion.
- ii) Prepare a statement showing the annual cost of production before and after the implementation of the suggestion to use the Jig and indicate the annual savings.
- b) Prepare a budget for year 2012 for direct labour costs and overhead expenses of a production department at the activity levels of 80%, 90% and 100%, using the information listed below:

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- i) Direct labour hourly rate is expected to be Rs.3.75
- ii) 100% activity represents 60,000 direct labour hours.
- iii) Variable cost:

Indirect labour	Rs.0.75 per direct labour hour
Consumable supplies	Rs.0.375 per direct labour hour
Canteen and other expenses	6% of direct and indirect labour cost

- iv) Semi-variable costs are expected to relate to the direct labour hours in the same manner as for the last five years

<u>Years</u>	<u>Direct labour hrs.</u>	<u>Semi variable costs (Rs.)</u>
2007	64,000	20,800
2008	59,000	19,800
2009	53,000	18,600
2010	49,000	17,800
2011	40,000	16,000

- v) Fixed overhead per labour hour at 100% activity are:

<u>Overheads</u>	<u>Rs.</u>
Depreciation	0.30

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Maintenance	0.20
Insurance	0.10
Fee and Taxes	0.25
Management salaries	0.40

vi) Inflation is to be ignored.

Answer No. 3

a) (i) Computation of amount of award payable to employee:

Total labour cost under existing condition:

Standard time required for one part	2 hours or 120 minutes
Average efficiency	60%
Direct labour hours required for one part	$120 \times 100 / 60 = 200$ minutes
Time required for 30,000 components	$30,000 \times 200 / 60 = 100,000$ hours
Labour cost @ Rs. 5 per hour [A]	Rs. 500,000

Total labour cost under suggested condition:

Standard time required for one part	$(120 - 20) = 100$ minutes
Average efficiency of labour	80%
Direct labour hours required for one part	$100 \times 100 / 80 = 125$ minutes
Time required for 30,000 components	$30,000 \times 125 / 60 = 62,500$ hours
Labour cost @ Rs. 5 per hour [B]	Rs. 312,500
Labour cost saved in a year [A] – [B]	Rs. 187,500
Award equivalent to 3 months cost saving	$Rs. 187,500 \times (3/12) = 46,875$

(ii) Annual cost of production to the company under both the condition and savings made:

Particulars	Before Rs.	After Rs.
Raw materials [30,000 × 10 × Rs. 2]	600,000	600,000
Direct wages @ Rs. 5 per hour		
For 100,000 hours	500,000	-
For 62,500 hours	-	312,500
Overhead absorbed @ Rs. 10 per hour	1,000,000	625,000
Material handling charges @ 2%	12,000	12,000
Cost of Jigs	-	31,500
Total costs	2,112,000	1,581,000
Saving in costs [Rs. 2,112,000 – Rs. 1,581,000]		531,000
Less: Award to employee		46,875
Net cost saving		484,125

b)

Flexible Budget for the year 2012
(Rs. in '000)

Particulars	80% level <u>48,000 hrs</u>	90% level <u>54,000 hrs</u>	100% level <u>60,000 hrs</u>
Direct Labour	180.00	202.5	225.00
Other variable costs:			
Indirect labour	36.00	40.50	45.00

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Consumable supplies	18.00	20.25	22.50
Canteen etc.	<u>12.96</u>	<u>14.58</u>	<u>16.20</u>
Total Variable Cost	246.96	277.83	308.70
Semi Variable cost (W.N.1)	17.60	18.80	20.00
Fixed cost			
Depreciation (60×0.3)	18.00	18.00	18.00
Maintenance (60×0.2)	12.00	12.00	12.00
Insurance (60×0.1)	6.00	6.00	6.00
Fee and Taxes (60×0.25)	15.00	15.00	15.00
Management salaries (60×0.4)	<u>24.00</u>	<u>24.00</u>	<u>24.00</u>
Budgeted cost	<u>339.56</u>	<u>371.63</u>	<u>403.70</u>

Working Note 1:

Segregation of semi variable cost using high/low method:

	Rs.
Total cost of 64,000 hours	20,800
Total cost of 40,000 hours	<u>16,000</u>
Variable cost of 24,000 hours	<u>4,800</u>

Variable cost per hour (4,800/24,000) 0.20

Total cost of 64,000 hours	20,800
Variable cost of 64,000 hours × 0.2	<u>12,800</u>
Fixed costs	<u>8,000</u>

Semi-variable costs are calculated as follows:

60,000 hours	(60,000×0.20)+8,000 = 20,000
54,000 hours	(54,000×0.20)+8,000 = 18,800
48,000 hours	(48,000×0.20)+8,000 = 17,600

4.

a) A company prepared the following budgeted income statement for next financial year:

<u>Particulars</u>	<u>Amount</u> <u>(Rs.)</u>	<u>Amount</u> <u>(Rs.)</u>
Sales (52,000 units @ Rs.850 each)		44,200,000
Cost of goods sold:		
Opening stock (2,000 units @ Rs.650 each)	1,300,000	
Purchases (52,000 units @ Rs.700 each)	36,400,000	
Closing stock (2,000 units @ Rs.700 each)	<u>(1,400,000)</u>	<u>36,300,000</u>
Gross profit		7,900,000
Expenditures:		
Purchasing cost- variable (@Rs.30,000 per order)	240,000	
Purchasing cost- fixed	840,000	
Transportation cost (@Rs.55,000 per order) (charged by the supplier of goods)	440,000	
Stock insurance cost (5,500 units @ Rs.40 each) (based on average stockholding)	220,000	
Fixed warehouse costs	<u>2,300,000</u>	<u>4,040,000</u>

(9)
Net profit before tax 3,860,000

At present, sales occur evenly throughout the year and a buffer stock of 2,000 units is maintained. Recently, the company has contracted with supplier to buy 52,000 units of goods, the payment of which shall be made in equal monthly installment throughout the year irrespective of the order size. As per the contract, transportation costs are to be paid at the beginning of the year.

The supplier has offered Rs.10,000 discount in transportation cost per order if the company increase the order size from 6,500 units to a minimum of 10,000 units per order.

The cost of capital of the company is 20% per annum.

Required:

(5+7=12)

- i) Assuming that the buffer stock level of 2,000 units is maintained; calculate the optimal order size for the company.
 - ii) Show the improvement in net profit before tax with the implementation of the optimal order size.
- b) From the following information relating to a hotel, calculate the room rent to be charged to give a profit of 25% on cost excluding interest. 8
- i) Salary to staffs – Rs. 1,022,000 per annum.
 - ii) Wages of the room attendant – Rs. 40 per day. There is a room attendant for each room. He is paid wages only when the room is occupied.
 - iii) Lighting and Heating power per month:
 - (a) Lighting expenses for each room are Rs. 1,000 when occupied.
 - (b) Heating power is used only in winter and the charges are Rs. 400 for a room when occupied.
 - iv) Repairs to buildings – Rs. 100,000 per annum.
 - v) License – Rs. 48,000 per annum.
 - vi) Sundries – Rs. 66,000 per annum.
 - vii) Interior decoration and furnishing – Rs. 100,000 per annum.
 - viii) Depreciation @ 5% is to be charged on building costing Rs. 4,000,000 and @ 10% on equipment.
 - ix) Interest to be charged @ 20% on investment on buildings and equipment amounting to Rs. 5,000,000.
 - x) There are 100 rooms in the hotel. 80% of the rooms are generally occupied in summer and 30% in winter. The period of summer and winter may be considered to be of 6 months in each case and a month may be assumed of 30 days.

Answer No. 4

a)

i) Calculation of Optimal Order Size

To calculate optimal order size, we have to find out EOQ

$$EOQ = \sqrt{2 \times A \times O / C}$$

Where,

EOQ= Economic Order Quantity

A = Annual Usage

O = Ordering Cost

C = Carrying Cost

We have,		
A = 52,000 Units		
O = Variable Purchasing cost + Transportation cost		
= Rs.30,000 + Rs.55,000 (if order size is lower than 10,000 units) = Rs.85,000		
Or		
= Rs.30,000 + Rs.45,000 (if order size is equal to or more than 10,000 units) = Rs.75,000		
C = stockholding cost + cost of capital		
As per the contract, the payment for purchase of 52,000 units will be made on equal monthly installments irrespective of the order size, therefore cost of capital will be same for all order size. Hence, the cost of capital is not included in carrying cost.		
Therefore,		
C = Rs.40 (insurance cost only)		

Now,

$$EOQ = \sqrt{2 \times 52,000 \times 85,000 / 40} = 14,866 \text{ units}$$

At this EOQ level, the company will be eligible to get concession of Rs.10,000 on transportation cost from supplier. Therefore, the ordering cost should be taken as Rs. 75,000 for calculating EOQ. Hence, new EOQ is

$$EOQ = \sqrt{2 \times 52,000 \times 75,000 / 40} = 13,964 \text{ units}$$

The buffer stock level of 2,000 units are covered in above 13,964 units of order size, therefore, the optimal order size for the company is 13,964 units per order.

ii)

Statement showing improvement in net profit before tax
with implementation of optimal order size

Particulars	Amount (Rs.)	Amount (Rs.)
Sales (52,000 units @ Rs.850 each)		44,200,000
Less Cost of goods sold:		
Opening stock (2,000 units @ Rs.650 each)	1,300,000	
Purchases (52,000 units @ Rs.700 each)	36,400,000	
Closing stock (2,000 units @ Rs.700 each)	(1,400,000)	36,300,000
Gross profit		7,900,000
Less Expenditures:		
Purchasing cost- variable (WN 1)	120,000	
Purchasing cost- fixed	840,000	
Transportation cost (WN 2)	180,000	
Stock insurance cost (WN 3)	359,280	
Fixed warehouse costs	2,300,000	3,799,280
Revised net profit before tax		4,100,720
Original net profit before tax		3,860,000
Improvement in net profit before tax		240,720

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WN 1) Calculation of variable purchasing cost	
Annual requirement (units)	52,000
Order size (units)	13,964
No. of orders (Annual requirement/ order size)	4
Variable purchasing cost per order (Rs.)	30,000
Total variable purchasing cost (Rs.)	120,000

WN 2) Calculation of transportation cost	
No. of orders	4
Transportation cost per order (Rs.)	45,000
Total transportation cost (Rs.)	180,000

WN 3) Calculation of stock insurance cost	
Buffer stock level (units)	2,000
Average stock (13964/2) (units)	6,982
Total average stockholding	8,982
Insurance cost per unit (Rs.)	40
Total stock insurance cost (Rs.)	359,280

b)

Operating Cost Statement showing Room Rent per Day

(Room days 19,800)

Particulars	Rs.	Rs.
Staff salaries		1,022,000
Room attendant's wages [Working note 2]		792,000
Lighting and heating power [Working note 3]		732,000
Repairs to buildings		100,000
Licence etc.		48,000
Sundries		66,000
Interior decoration and furnishing		100,000
Depreciation on:		
Buildings (5% of Rs. 4,000,000)	200,000	
Equipments [10% of Rs. (5,000,000 – 4,000,000)]	100,000	300,000
Total cost before charging interest		3,160,000
Interest on investment @ 20%		1,000,000
Total cost		4,160,000
Profit @ 25% on Rs. 3,160,000		790,000
Total rent to be charged for all rooms		4,950,000
Room – days [Working note 1]		19,800
Room rent per day		250

Working notes:

1. Calculation of Room Days:

Summer: $(100 \times 80 / 100 \times 6 \times 30)$ 14,400Winter: $(100 \times 30 / 100 \times 6 \times 30)$ 5,400

Total 19,800

2. Calculation of Room Attendant's Wages:

Rs.

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Summer: (Rs. $40 \times 100 \times 80 / 100 \times 6 \times 30$)	576,000
Winter: (Rs. $40 \times 100 \times 30 / 100 \times 6 \times 30$)	216,000
Total	<u>792,000</u>

3. Calculation of charges of Lighting and Heating Power:

	Rs.
Lighting: Summer (Rs. $1,000 \times 100 \times 80 / 100 \times 6$)	480,000
Winter (Rs. $1,000 \times 100 \times 30 / 100 \times 6$)	180,000
Heating Power: Winter (Rs. $400 \times 100 \times 30 / 100 \times 6$)	<u>72,000</u>
Total	<u><u>732,000</u></u>

5. Distinguish between:

(4×2.5 =10)

- Integrated accounting system and Uniform costing
- Bin cards and Store ledger
- Job evaluation and Merit rating
- Absorption costing and Variable costing

Answer No. 5

- a) Integrated accounting system is the one which contains both financial and cost accounts in a single book-keeping system. Thus, it discards the concept of requirement of separate profit and loss account for financial and costing purpose. For implementation of integrated accounting system, factors such as degree of integration of records, preparation of control accounts for various elements of costs, details of cost data to be provided to cost accounting department, and need for creation of suspense accounts should be considered.

Uniform costing is defined as the use by several undertakings of the same costing principles and/ or practices. It is not a separate method of cost accounting; it only points to a situation where a number of business firms are applying similar costing principles and practices. The designing and applications of uniform costing require that a uniform cost manual containing instructions, clarifications, rules and guidelines about cost determination, cost analysis and cost control, should be developed and circulated among the undertakings deciding to use uniform costing.

b)

Bin cards	Store ledger
Bin Cards maintained by Store Keeper	Store ledger is maintained by cost accounting department
It is the store recording documents	It is an accounting record
It contains information as records to quantities; receipt, issue and balance	It contains both quantitative and value information of receipt, issue and balance
Entries in bin cards are made when transaction take place; i.e. entities made and movement of goods are made.	Entries are made only after the transaction has taken place
Bin Card records each transaction	Store ledger records the same information in a summarized form
Inter Departmental transfer of materials does not appear	Inter Departmental transfer of materials appear here.

- c) The term job evaluation may be defined as the process of analysis and assessment of jobs to ascertain reliably their relative worth and to provide management with a reasonably sound basis for determining the basic internal wage and salary structure for

the various job positions. In other words, job evaluation provides a rationale for differential wages and salaries for different group of employees and ensures that these differentials are consistent and equitable.

On the other hand merit rating is a systematic evaluation of the personality and performance of each employee by his supervisor or some other qualified person.

The main distinctions between the two are as follows:

1. Job evaluation is the assessment of the relative worth of jobs within a company and merit rating is the assessment of the relative worth of the man behind a job. In other words, merit rating rates employees on their jobs while job evaluation rates the jobs.
 2. Job evaluation and its accomplishment are means to set up a rational wage and salary structure whereas merit rating provides a scientific basis for determining fair wages for each worker based on his ability and performance.
 3. Job evaluation simplifies wage administration by bringing uniformity in wage rates. On the other hand merit rating is used to determine fair rate of pay for different workers on the basis of their performance.
- d) Absorption costing treats the costs of all manufacturing components (direct material, direct labour, variable overhead and fixed overhead) as inventoriable or product costs. Costs incurred in the non-manufacturing areas are considered as period costs. In contrast, variable costing is a cost accumulation method that includes only variable production costs (direct material, direct labour, and variable overhead) as inventoriable or product costs. Fixed manufacturing overhead is treated as period costs. Two basic differences can be seen between absorption costing and variable costing. The first difference is the way fixed overhead (FOH) is treated for product costing purposes. Under absorption costing, FOH is considered a product cost because it advocates that products cannot be made without the capacity provided by fixed manufacturing costs; under variable costing, it is considered a period cost because it advocates that fixed manufacturing costs would be incurred whether or not production occurs. The second difference is in the presentation of costs on the income statement. Absorption costing classifies expenses by function, whereas variable costing categorizes expenses first by behavior and then may further classify them by function.

6.

- a) You joined a manufacturing company with very good profitability record. Staff and owners were happy with the profit margin. Do you think there may be still some room for cost reduction to increase profit margin? Justify your answer. 2.5
- b) Write short notes on the following: (3×2.5=7.5)
 - i) Pareto Inventory Analysis
 - ii) Capacity Cost
 - iii) Control Ratios

Answer No. 6

- a) Even though industry is making good profit margin and running at good profit; there should be cost reduction attainable in almost areas of business activities. There is perhaps no situation which cannot be improved for cost reduction. We can review new layout, product design, production methods, material used, labour efficiency, machines used, office layout, innovation in marketing, packaging, warehousing, handling, purchasing, use of administrative facilities and even utilization of financial resources.

Cost may be additionally incurred because of:

CAY

P.T.O.

- i. Lack of information about raw materials, processes, products and components etc.
- ii. Lack of utilization of ideas generated from performance and economic analysis
- iii. Hones but wrong beliefs that certain things are impossible for achievement
- iv. Temporary circumstances like features developed under pressure or modifications made to meet certain circumstances.
- v. Habits and attitudes of confining to one conventional method

Considering all factors we can review all of the cost factors and analyze the probability of cost reduction in all areas at a same time or one by one considering the size of operation and cost involved.

After making such detailed study, cost reduction areas could be identify in one or more areas of operation.

b)

- i) Unit cost commonly affects the degree of control that should be maintained over an inventory item. As unit cost increases, internal controls (such as inventory access) are typically tightened and perpetual inventory system is more often used. Recognition of cost-benefit relationships may result in a Pareto Inventory Analysis, which separates inventory into three groups based on annual cost-to-volume usage.

Items having the highest value are referred to as A items; C items represent the lowest value; and all other items are categorized as B items. Once this categorization is done, management can determine the best inventory control method for items in each category.

- ii) Capacity cost is an alternative term used for fixed cost. It represents cost of providing facilities of a system for a particular period. Capacity cost can be classified further into standby cost and enabling cost. Standby cost is that cost which continues to be incurred even if operations or facilities are shutdown temporarily. Examples are depreciation, property taxes, management salaries etc. Enabling cost is the cost which can be avoided by a temporary shutdown, but it must be incurred if production is resumed.

iii) Control Ratios

Control ratios are the tools used to monitor and control performance of the organization. This is determined by comparing the planned values (budgets) with the actual values as they occur/achieved during a period. Under budgetary control system certain ratios are used to determine the effective use of the resources. Such ratios are used by the management to know whether the deviations of the actual performance from the budgeted performance are favourable or not. There are three major control ratios, activity ratio, capacity ratio and efficiency ratio.

1. Activity Ratio

Activity Ratio: It is a measure of the level of activity attained over a period of time. It is obtained by expressing the number of standard hours equivalent to the work produced as a percentage of the budgeted hours. Higher the ratio better is the performance. Mathematically it is expressed as follows:

$$\text{Activity Ratio} = \frac{\text{Standard hours of actual production}}{\text{Budgeted hours}} \times 100$$

Level of activity is arrived by comparing the actual production with the anticipated production as shown in the budget.

Calendar Ratio: Actual activity gets affected if the budgeted number of days could not be worked. Hence, calendar ratio is calculated to control the number of days actually available for work. This ratio indicates whether all budgeted working days have been actually available for working in the budgeted period.

$$\text{Calendar Ratio} = \frac{\text{Actual working days}}{\text{Budgeted working days}} \times 100$$

2. **Capacity Ratio**

Capacity Usage Ratio: It indicates the relationship between the budgeted number of working hours and the maximum possible number of working hours in a budgeted period.

$$\text{Capacity Usage Ratio} = \frac{\text{Budgeted number of working hours}}{\text{Maximum number of working hours}} \times 100$$

Standard Capacity Employed Ratio: It indicates the extent to which facilities were actually utilized during the budgeted period. Higher ratio indicate that higher capacity were used in actual compare to budget.

$$\text{Standard Capacity Employed Ratio} = \frac{\text{Actual hours worked}}{\text{Budgeted hours}} \times 100$$

3. **Efficiency Ratio**: This indicates the efficiency attained in production during the budgeted period. It is calculated as follows:

$$\text{Efficiency Ratio} = \frac{\text{Standard hours of actual production}}{\text{Actual hours worked}} \times 100$$