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Solution of CA Inter – Costing Paper – May 2018

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Solutions to CA Inter – Cost & Management Accounting Paper – Exam Paper – May 2018

Question 1 (a)

A (Annual requirement of raw material) = 12000 units

O (Ordering Cost per order) = Rs. 1800

C (Carrying Cost per unit per annum) = Rs. 640 * 18.75% = Rs. 120

Here We will use Salman Khan Approach

$$1) \text{ EOQ} = \sqrt{\frac{2 \times A \times O}{C}} = \sqrt{\frac{2 \times 12,000 \text{ units} \times \text{Rs.} 1800}{120}} = 600 \text{ units}$$

2) Calculation of total cost when

	EOQ is ordered (600 units)	3000 units are ordered
Total Annual purchase cost	76,80,000 (12,000 units X Rs. 640)	72,96,000 (12,000 units X Rs. 640 X 95%)
Total annual ordering Cost	36,000 (20 Orders X Rs. 1800)	7200 (4 orders X RS. 1800)
Total annual carrying cost	36,000 ($\frac{600 \text{ units}}{2} \times \text{Rs.} 640 \times 18.75\%$)	1,71,000 ($\frac{3000 \text{ units}}{2} \times \text{Rs.} 640 \times 95\% \times 18.75\%$)
Total Material Cost	77,52,000	74,74,200

Advise:- Offer should be accepted since it results in saving of Rs.2,77,800

Question 1 (b)

Statement showing factory Cost

Particulars	Rowan Plan (Rs.)	Halsey Plan (Rs.)
Material Cost	50	50
Labour Cost		
Time Based	15 Hour x Rs.5 = 75	15 Hour x Rs.5 = 75
Bonus	5 Hour x Rs. 5 x $\frac{15 \text{ Hour}}{20 \text{ Hour}} = 18.75$	5 Hour x Rs. 5 x 50% = 12.50
Factory Overhead (100% of Wages)	93.75	87.50
Factory Cost	237.50	225.00

Formulaes

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1. Wages under Halsey Plan = hours worked x wage rate + hours saved x $\frac{50}{100}$ x hourly wage rate
2. Wages under Rowan Scheme = hours worked x wage rate + hours saved x $\frac{\text{time taken}}{\text{time allowed}}$ x hourly wage rate

Question 1 (c)

$$(1) \text{ P/V Ratio} = \frac{\text{difference in profit}}{\text{difference in sales}} = \frac{\text{Rs.15000} - (15000)}{\text{Rs.500000} - 400000} \times 100 = 30\%$$

W.Note 1:- Calculation of Marginal Costing Equation

Particulars	2016-17	2017-18
Sales	400000	500000
Less:- Variable Cost (Difference)	(280000)	(350000)
Contribution (30% of Sales)	120000	150000
Less:- Fixed Cost	(135000)	(135000)
Profit	(15000)	15000

(2) Fixed Cost = Rs. 135000 (W. Note 1)

$$(3) \text{ Break Even Point Sales in rupees} = \frac{\text{Fixed Cost}}{\text{p/v ratio}} = \frac{135000}{30\%} = 450000$$

$$(4) \text{ Sales required to earn a profit of Rs. 45,000} = \frac{\text{Fixed Cost} + \text{Profit}}{\text{PV Ratio}} = \frac{135000 + 45000}{30\%} = 600000$$

$$(5) \text{ Margin of Safety for 2017-18} = \frac{\text{profit}}{\text{pv ratio}} = \frac{15000}{30\%} = 50000$$

Question 1 (d)

Here DCP Approach of Purushottam Aggarwal Sir is very helpful

MEMORANDUM RECONCILIATION ACCOUNT



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Particulars – Minus Items	Rs.	Particulars – Plus Items	Rs.
To Net Loss as per Cost Accounts	248300	By Works overheads over recovered	30400
To Selling overhead under recovered	20300	By Depreciation overcharged in Cost Accounts	35100
To Admin Overhead	27700	By Interest credited	7500
To Bad debts	15000	By Net Loss (as per Financial Accounts)	243300
To Preliminary Exp. W/Off	5000		
	316300		316300

Question 2 (a)

Cost Sheet

Particulars	Amt (Rs.)
Opening stock of raw material	228000
Add:- Purchase of raw material	4225000
Add:- Freight Inward	100000
Less:- Sale of scrap of material	(8000)
Less:- Closing stock of raw material	(305000)
Direct material consumed / DMC	4240000
Direct Labour Cost (1256000 + 150000)	1406000
Direct Expenses / Chargeable Expenses	NIL
Prime Cost/Direct Cost	5646000
Factory/works/Manufacturing/Production overhead (20% of Prime Cost)	1129200
Plus Opening stock of WIP	192500
Less closing stock of WIP	(140700)
Factory Cost	6827000



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Quality Control Cost	NIL
Research & Development Cost (Process Related)	NIL
Adm. Overheads (Related to Production Activity)	173000
Less:- Credit for Recoveries / Scrap / By –Products / Misc. Income	NIL
Primary Packing Cost	NIL
Cost of Production (For FG Produced) (14000 units produced)	7000000
Plus opening stock of finished goods (1217 units)	608500
Less closing stock of finished goods (W. Note 1) (1064 units x Rs. 500)	(532000)
Cost of goods Sold (For FG Sold) (14153 units Sold)	7076500
Selling and distribution overhead (14153 units x Rs. 16 per unit)	226448
General Admin Overheads	NIL
Total cost / Cost of sales	7302948
Profit	14,43,606
Total Sales (14153 units x Rs. 618)	8746554

W.Note 1 :- Opening stock of FG + Produced = Sold units + closing stock

1217 units + 14000 units = 14153 units + closing stock

Closing stock = 1064 units

Question 2 (b)

Contract Account (Rs. In '000)

Particulars	Amount	Particulars	Amount
To Material Purchased	6800	By Material returned to stores	150
To Direct wages paid 3450	3400	By Material at site	175
Less Prepaid (50)			
To Salaries 200	300	By Value of work certified	11800

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Plus Outstanding	100	(9440/80%)	
To Depreciation on plant 1200000 x 15% x 5 months / 12 months	75		
		By Cost of work uncertified	500
To Notional Profit	2100	By Costing P&L A/c (Material Stolen)	50
	12675		12675
To Costing P&L A/c	1120	By Notional profit	2100
To Work-in-progress (reserve)	980		
	1425		1425

$$\% \text{ of work completed} = \frac{\text{Value of work certified}}{\text{Contract Price}} \times 100 = \frac{11800000}{16000000} \times 100 = 73.75\%$$

$$\text{Profit to be recognised in Costing P\&L Account} = \frac{2}{3} \times \text{Notional Profit} \times \frac{\text{Cash Received}}{\text{Work Certified}}$$

$$= \frac{2}{3} \times 21,00,000 \times 80\% =$$

BALANCE SHEET (Extract)			
Liabilities	Rs.	Assets	Rs.
Profit & Loss A/c	1120000	Plant (1200000 – 75000)	1125000
Outstanding Salary	100000	Material at site	175000
		Work-in-progress :	
		Value of work certified	



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Question 3 (a)

Average No. of workers on roll during the period = $\frac{900+1100}{2} = 1000$ workers

1. Labour turnover under **separation method**:- $\frac{\text{No. of separations in a year}}{\text{Average no. of workers}} \times 100$

No. of separations = left + discharged = 40 + 60 = 100 workers

Labour turnover under **separation method** = $\frac{100}{1000} \times 100 = 10\%$

2. Labour turnover under **replacement method** = $\frac{\text{No. of replacements in the period}}{\text{Average no. of workers}} \times 100$

No. of replacement does not include recruitment due to expansion.

LT Rate = $\frac{75 \text{ workers}}{1000 \text{ workers}} \times 100 = 7.5\%$

3. Labour turnover under **Flux method** (Fresh recruitment due to expansion not considered)

= $\frac{(\text{No. of separations} + \text{No. of replacements})}{\text{Average no. of workers}} \times 100 = \text{LT Rate} = \frac{100+75}{1000} \times 100 = 17.5\%$

Question 3 (b)

Statement showing normal loss, abnormal loss and abnormal gain (units)

Particulars	Process 1	Process 2	Process 3
Actual output (units) (A)	9000 Kg	8200 Kg	7300 Kg
Actual Input (inputs)	10000 Kg	9000 Kg	8200 Kg
Less Normal loss	(1000 KG)(10%)	(900 Kg) (10%)	(820 Kg) (10%)
Normal output (units) (B)	9000 KG	8100 Kg	7380 KG
Normal loss (units)	(1000 KG)	(900 KG)	(820 KG)

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Abnormal loss/gain (units) (A-B)	NIL	100 KG	(80 KG)
Actual loss (units)	<u>(1000 KG)</u>	<u>(800 KG)</u>	<u>(900 KG)</u>
Input cost (Input x cost p.u.)	Rs. 50000	139500 (9000 Kg x Rs. 15.50)	254200 (8200 KG x Rs.31)
Add Other direct cost	38000+30000 + 30000 x 75% = 90500	42500+40000+40000 x 75% =112500	42880+50000+50000x75%= 130380
Less scrap value of normal loss (units x scrap value p.u.)	(1000)	(900)	(820)
Net Cost – C	<u>139500</u>	<u>251100</u>	<u>383760</u>
Cost per good unit (C/B)	<u>15.50</u>	<u>31.00</u>	<u>52.00</u>

W.Note 1 Calculation of Overhead Recovery Rate = $\frac{\text{Total Overhead}}{\text{Total Labour cost}} \times 100 =$

$$\text{ORR} = \frac{90000}{30000+40000+50000} \times 100 = 75\% \text{ of Direct labour cost}$$

Process P Account

Particulars	Units	Total (Rs.)	Particulars	Units	Total (Rs.)
To Material	10000	50000	By Normal Loss A/c	1000	1000
To Direct material		38000			
To Direct Labour		30000	By Process Q A/c	9000	139500
To Production Overhead (75% of Direct labour)		22500			
	10,000	140500		10,000	140500

Process Q Account

Particulars	Units	Total (Rs.)	Particulars	Units	Total (Rs.)
To Process P A/c	9000	139500			
To Direct material		42500	By Normal Loss A/c	900	900
To Direct Labour		40000			
To Production Overhead		30000	By Process R A/c	8200	254200

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(75% of Direct labour)					
To abnormal gain A/c	100	3100			
	9100	255100		9100	255100

Process R Account

Particulars	Units	Total (Rs.)	Particulars	Units	Total (Rs.)
To Process R A/c	8200	254200			
To Direct material		42880	By Normal Loss A/c	820	820
To Direct Labour		50000	By abnormal loss A/c	80	4160
To Production Overhead (75% of Direct labour)		37500	By Finished Goods A/s	7300	379600
	8200	384580		8200	384580

Calculation of selling price of Finished goods on per unit basis

Profit = 25% on selling price = 33.33% of cost

Selling price per unit = cost per unit + profit = 52.00 + 52.00 x 33.33% = 69.34

Question 4 (a)

- (i) Under Traditional method of charging overhead, It is decided to apportion overhead cost on the basis of machine hours.

$$\text{Overhead recovery rate} = \frac{\text{Total Overhead}}{\text{Total Machine hour}}$$

$$= \frac{\text{Rs. } 475020 + 579988 + 504992}{24,000 \text{ hour} + 54,000 \text{ hour}} = \text{Rs. } 20 \text{ per machine hour}$$

Overhead cost per unit of Gel Pen = ORR x machine hour required p.u.



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$$= \text{Rs. } 20 \times \frac{24000 \text{ hours}}{5500 \text{ units}}$$

$$= \text{Rs. } 87.27 \text{ per units}$$

Overhead cost per unit of Ball Pen = ORR x machine hour required p.u.

$$= \text{Rs. } 20 \times \frac{54000 \text{ hours}}{24000 \text{ units}}$$

$$= \text{Rs. } 45 \text{ per unit}$$

(ii) Statement of cost (pool)

Cost	Amount	Basis	No. of Activity	Cost per Activity
Volume related	475020	Machine hour	78000 machine hours	Rs. 6.09 per machine hr
Set-up related	579988	No. of set-ups	86 set ups	Rs. 6744.04 per set up
Purchase related	504992	No. of POs	688 POs	Rs. 734 per PO

Statement of cost

Particulars	Product A	Product B
Volume related (24000 hrs & 54000 hrs) @ Rs. 6.09	146160	328860
Set-up related (30 & 56) @ Rs.6744.04	202321	377667
Purchase related (240 & 448) @ Rs. 734	176160	328832
Total overhead Cost	524641	1035359
Output (units)	5500	24000
Overhead cost per unit	95.38	43.13

(iii) Statement showing difference in overhead cost per unit

Product	Traditional Method	Activity Based Costing	Difference
Gel Pen	87.27 per unit	95.38 per unit	8.11 per unit



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Ball Pen	45 per unit	43.13 per unit	1.87 per unit
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Question 4 (b)

W.Note 1:- Number of patient Days

= 50 beds x 200 days + 30 beds x 105 days + 20 beds x 60 days + 250 bed days (Extra)

= 10000 bed days + 3150 bed days + 1200 bed days + 250 bed days = 14600 bed days

Statement showing profit

Particulars	Amount (Rs.)
Fixed Costs:-	
Rent (Rs. 225000 x 12 months)	27,00,000
Manager's Salary (Rs. 50000 x 12 months x 3 persons)	18,00,000
Nurses (Rs. 18,000 x 12 months x 24 persons)	51,84,000
Ward boys (Rs.9000 x 12 months x 24 persons)	25,92,000
Admin Overheads	28,00,000
Depreciation on Equipments (8500000 x 15%)	12,75,000
Total Fixed Cost – A	1,63,51,000
Variable Costs	
Doctors Fees (Rs. 5,50,000 x 12 months)	66,00,000
Food & laundry charges	39,53,000
Medicines (variable)	22,75,000
Bed hire charges (Rs. 950 x 250 beds)	2,37,500
Total Variable Cost – B	1,30,65,500



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Total Cost (A+B)	2,94,16,500
Profit (Difference)	70,83,500
Revenue (14600 patient days x Rs. 2500)	3,65,00,000

(2) Computation of contribution per patient day

$$= \frac{\text{Total Contribution}}{\text{Total patient days}}$$

$$= \frac{\text{Revenue} - \text{Variable Costs}}{\text{Total patient Days}} = \frac{365,00,000 - 1,30,65,500}{14600 \text{ patient days}} = 1605.1027$$

Breakeven Point = Fixed Cost / Contribution per Patient day

$$= \text{Rs. } 1,63,51,000 / \text{Rs. } 1,605.1027$$

$$= 10187 \text{ patient days}$$

Question 5 (a)(i)

Cost of materials consumed	Material M (Rs.)	Material N (Rs.)
Opening stock	6,00,000	10,00,000
Add: Purchases	<u>9,50,000</u>	<u>18,40,000</u>
	15,50,000	28,40,000
Less: Closing stock	<u>4,50,000</u>	<u>7,25,000</u>
Materials consumed	<u>11,00,000</u>	<u>21,15,000</u>
Average inventory: (Opening Stock + Closing Stock) / 2	5,25,000	8,62,500
Inventory Turnover ratio: (Consumption / Average inventory)	2.09 times	2.45 times
Raw Material Holding Period	172 days	146 days

Comments: Material B is moving faster than Material A.

Question 5 (a) (ii)

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Computation of Material Variances

Particulars	SP X SQAQ	SP X RSQ	SP X AQ	AP X AQ
Material P	Rs. 40 x 146.25 ltrs	Not Required	Rs. 40 x 140 ltrs	Rs. 42 x 140 ltrs
Material Q	Rs. 60 x 97.50 ltrs		Rs. 60 x 110 ltrs	Rs. 56 x 110 ltrs
Total	Rs. 11,700		Rs. 12,200	Rs. 12,040
	M1	M2	M3	M4

SP = Std Price, AP = Actual Price, AQ = Actual Quantity consumed, RSQ = Revised Std Qty, SQAQ = Std quantity for actual output

SQAQ = Actual output x budgeted input for 1 unit of output = Actual output x $\frac{\text{Total Budgeted Material Kg}}{\text{Total budgeted Output}}$

Actual Output = Input – normal loss = (150 ltrs + 100 ltrs) x 80% = 200 ltrs

SQAQ (Material P) = 195 ltrs x $\frac{150 \text{ ltrs}}{200 \text{ ltrs}}$ = 146.25 ltrs

SQAQ (Material Q) = 195 ltrs x $\frac{100 \text{ ltrs}}{200 \text{ ltrs}}$ = 97.50 ltrs

DMCV = M1 – M4 = Rs. 11,700 – Rs. 12,040 = Rs. 340 (A)

DMUV = M1 – M3 = Rs. 11,700 – Rs. 12,200 = Rs. 500 (A)

DMPV = M3 – M4 = Rs. 12,200 – Rs. 12,040 = Rs. 160 (F)

Question 5 (b)

(i) Statement showing profit when selling price is increased

Particulars	Amount (Rs.)
Sales (1200 pieces x Rs. 2000 per piece)	24,00,000
Less:- Variable cost (1200 piece x Rs. 1170 per piece)	(14,04,000)
Less:- Fixed Cost (11,97,000 X 40%)	(4,78,800)
Profit	5,17,200



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W. Note 1:- Calculation of variable cost per unit =

Direct material cost+Direct labour cost+Variable Overheads

Total units sold

$$= \frac{\text{Rs.5,94,200} + \text{Rs.4,42,600} + 11,97,000 \times 60\% \text{ variable}}{1500 \text{ pieces}} = 1170 \text{ per unit}$$

Decision:- Company should go for increase in selling price since it would result increase in profit.

Question 6

For theory – Just refer 60 pages summary book of purushottam Aggarwal sir. This book has all the theory in question answer form and covered in only 60 pages.



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