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IPCC NOVEMBER 2016 EXAM

COSTING

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BRANCH - (MUMBAI) (Date :11.09.2016)

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Answer-1 :

(i) Comparison of alternative Joint-Cost Allocation Methods:

(a) Sales Value at Split-off Point Method

	Chocolate powder liquor base	Milk chocolate liquor base	Total
Sales value of products at split off	Rs. 2,99,250*	Rs. 5,55,750**	Rs. 8,55,000
Weights	0.35	0.65	1.00
Joint cost allocated	Rs. 2,49,375 (Rs.7,12,500 ×0.35)	Rs. 4,63,125 (Rs.7,12,500 ×0.65)	Rs. 7,12,500

(1 Mark)

*(3,000 lbs ÷ 200 lbs) × 20 gallon × Rs. 997.50 = Rs. 2,99,250

** (5,100 lbs ÷ 340 lbs) × 30 gallon × Rs.1,235 = Rs. 5,55,750

(b) Physical Measure Method

	Chocolate powder liquor base	Milk chocolate liquor base	Total
Output	300 gallon*	450 gallon**	750 gallons
Weight	300/750 = 0.40	450/750 = 0.60	1.00
Joint cost allocated	Rs. 2,85,000 (Rs. 7,12,500 x 0.40)	Rs. 4,27,500 (Rs. 7,12,500 x 0.60)	Rs. 7,12,500

(1 Mark)

*(3,000 lbs ÷ 200 lbs) × 20 gallon = 300 gallon

** (5,100 lbs ÷ 340 lbs) × 30 gallon = 450 gallon

(c) Net Realisable Value (NRV) Method

	Chocolate powder liquor base	Milk chocolate liquor base	Total
Final sales value ofproduction	Rs. 5,70,000 (3,000 lbs × Rs.190)	Rs. 12,11,250 (5,100 lbs × Rs. 237.50)	Rs. 17,81,250
Less: Separable costs	Rs. 3,02,812.50	Rs. 6,23,437.50	Rs. 9,26,250
Net realisable value atsplit off point	Rs. 2,67,187.50	Rs. 5,87,812.50	Rs. 8,55,000
Weight	0.3125 (2,67,187.50 ÷8,55,000)	0.6875 (5,87,812.5 ÷8,55,000)	1.00
Joint cost allocated	Rs. 2,22,656.25 (Rs. 7,12,500 x0.3125)	Rs. 4,89,843.75 (Rs. 7,12,500 x 0.6875)	Rs. 7,12,500

(2 Marks)

(d) Constant Gross Margin(%)NRV method

	Chocolate powder Liquor base	Milk chocolate liquor Base	Total
Final sales value of production	Rs. 5,70,000	Rs. 12,11,250	Rs. 17,81,250
Less: Gross margin* 8%	Rs. 45,600	Rs. 96,900	Rs. 1,42,500
Cost of goods available for sale	Rs. 5,24,400	Rs. 11,14,350	Rs.16,38,750
Less: Separable costs	Rs. 3,02,812.50	Rs. 6,23,437.50	Rs. 9,26,250
Joint cost allocated	Rs. 2,21,587.50	Rs. 4,90,912.50	Rs. 7,12,500

(2 Marks)

*Final sales value of total production	= Rs.17,81,250
Less: Joint and separable cost	= Rs. 16,38,750 (Rs. 7,12,500 + Rs. 9,26,250)
Gross Margin	= Rs. 1,42,500
Gross margin (%)	$= \frac{Rs.1,42,500}{Rs.17,81,250} \times 100 = 8\%$

(ii) Chocolate powder liquor base **(Amount in Rs.)**

	Sales value at Split off	Physical Measure	Estimated net Realisable Value	Constant Gross Margin NRV
Final sale value ofChocolate powder	5,70,000	5,70,000	5,70,000	5,70,000
Less: Separable costs	3,02,812.50	3,02,812.50	3,02,812.50	3,02,812.50
Less: Joint costs	2,49,375	2,85,000	2,22,656.25	2,21,587.50
Gross Margin	17,812.50	(17,812.50)	44,531.25	45,600
Gross Margin %	3.125%	(3.125%)	7.8125%	8.00%

(2 Marks)

Milk chocolate liquor base **(Amount in Rs.)**

	Sales value at split off	Physical measure	Estimated net realizable	Constant Gross margin NRV
Final sale value of milkchocolate	12,11,250	12,11,250	1,11,250	12,11,250
Less: Separable costs	6,23,437.50	6,23,437.50	6,23,437.50	6,23,437.50
Less: Joint costs	4,63,125	4,27,500	4,89,843.75	4,90,912
Gross Margin	1,24,687.50	1,60,312.50	97,968.75	96,900.50
Gross Margin %	10.29%	13.24%	8.09%	8.00%

(2 Marks)

(iii) Further processing of Chocolate powder liquor base into Chocolate powder

	(Amount in Rs.)
ncremental revenue {Rs. 5,70,000 – (Rs. 997.50 x 300 gallon)}	2,70,750
Less: Incremental costs	3,02,812.50
Incremental operating income	(32,062.50)

(1 Mark)

Further processing of Milk Chocolate liquor base into Milk Chocolate.

	(Amount in Rs.)
Incremental revenue {Rs.12,11,250 – (Rs. 1,235 x 450 gallon)}	6,55,500
Less: Incremental cost	6,23,437.50
Incremental operating income	32,062.50

(1 Mark)

The above computations show that Pokemon Chocolates could increase operating income by Rs. 32,062.50 if chocolate liquor base is sold at split off point and milk chocolate liquor base isprocessed further.

Answer–2 :

Process- I A/c

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To Opening Balance	1,50,000	1,50,000	–	By Transfer to Process II A/c.	10,80,000	8,10,000	2,70,000
To Direct Material	3,00,000	3,00,000	–				
To Direct Wages	2,24,000	2,24,000	–				
	6,74,000	6,74,000	–				
Less : Closing Stock	74,000	74,000	–				
Prime Cost	6,00,000	6,00,000	–				
To Factory Overhead	2,10,000	2,10,000	–				
Total Cost :	8,10,000	8,10,000	–				
Profit 25% on transfer price i.e. 33 $\frac{1}{3}$ on total cost	2,70,000	–	2,70,000				
	10,80,000	**8,10,000**	**2,70,000**		**10,80,000**	**8,10,000**	**2,70,000**

(3 Marks)

Process- II A/c

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To Opening Stock	h1,80,000	1,50,000	30,000	By Transfer to Process II A/c.	22,50,000	15,15,000	7,35,000
To Direct Material	3,15,000	3,15,000	–				
To Direct Wages	2,25,000	2,25,000	–				
To Transfer from Process I A/c.	10,80,000	8,10,000	2,70,000				
	18,00,000	15,00,000	3,00,000				
Less : Closing Stock	90,000	75,000	15,000				
Prime Cost	17,10,000	14,25,000	2,85,000				
To Factory Overhead	90,000	90,000	–				
Total Cost	18,00,000	15,15,000	2,85,000				
Profit 20% on transfer price i.e. 25% on cost	4,50,000	–	4,50,000				
	22,50,000	**15,15,000**	**7,35,000**		**22,50,000**	**15,15,000**	**7,35,000**

(3 Marks)

Profit element in closing stock = $\frac{3,00,000}{18,00,000} \text{ x } 90,000 = 15,000$

Finished Stock A/c

Particulars	Total Rs.	Cost Rs.	Profit Rs.	Particulars	Total Rs.	Cost Rs.	Profit Rs.
To Opening Stock	4,50,000	2,85,000	1,65,000	By Sales	28,00,000	16,50,000	11,50,000
To Transfer from Process–II	22,50,000	15,15,000	7,35,000				
	27,00,000	18,00,000	9,00,000				
Less :	2,25,000	1,50,000	75,000				

Closing Stock							
Total Cost	24,75,000	16,50,000	8,25,000				
Profit (Balancing Figure)	3,25,000	–	3,25,000				
	28,00,000	**16,50,000**	**11,50,000**		**28,00,000**	**16,50,000**	**11,50,000**

(3 Marks)

Profit element in closing finished stock = $\frac{9,00,000}{27,00,000}$ x $2,25,000 = 75,000$

Calculation of Profit on Sale

Process	**Apparent Profit (Rs.)**	**Add: Unrealised Profit in Opening Stock (Rs.)**	**Less: Unrealised Profit in Closing Stock (Rs.)**	**Actual Profit (Rs.)**
Process – I	2,70,000	—	—	2,70,000
Process – II	4,50,000	30,000	15,000	4,65,000
Finished Stock	3,25,000	1,65,000	75,000	4,15,000
	10,45,000	**1,95,000**	**90,000**	**11,50,000**

(3 Marks)

Answer–3(a) :

Journal Entries under Integrated system of accounting

	Particulars		(.)	(.)
(i)	Work-in-Progress Ledger Control A/c	Dr.	3,25,000	
	Factory Overhead Control A/c	Dr.	1,15,000	
	To Stores Ledger Control A/c			4,40,000
	(Being issue of Direct and Indirect materials)			**(1 Mark)**
(ii)	Work-in Progress Ledger Control A/c	Dr.	4,87,500	
	Factory Overhead control A/c	Dr.	1,62,500	
	To Wages Control A/c		6,50,000	
	(Being allocation of Direct and Indirect wages)			**(1 Mark)**
(iii)	Factory Overhead Control A/c	Dr.	2,50,000	
	To Costing Profit & Loss A/c		2,50,000	
	(Being transfer of over absorption of Factory overhead)			**(1 Mark)**
	Costing Profit & Loss A/c	Dr.	1,75,000	
	To Administration Overhead Control A/c			1,75,000
	(Being transfer of under absorption of Administration overhead)			**(1 Mark)**
(iv)	Sundry Creditors A/c	Dr.	1,50,000	
	To Cash/ Bank A/c			1,50,000
	(Being payment made to creditors)			**(1 Mark)**
(v)	Cash/ Bank A/c	Dr.	2,00,000	
	To Sundry Debtors A/c			2,00,000
	(Being payment received from debtors)			**(1 Mark)**

Answer–3(b) :

Computation of machine hour rate of new Machine

		Total (Rs.)	Per hour (Rs.)
A.	**Standing Charges**		
I.	Insurance Premium Rs.9,000 × $\frac{1}{9}$	1,000	
II.	Rent $\frac{1}{10}$ × Rs.2,400 ×12 months	2,880	
		3,880	0.97*
B.	**Machine expenses**		
I.	Repairs and Maintenance (Rs.5,000 ÷ 4,000 hours)		1.25
II.	Depreciation $\left[\frac{\text{Rs.10,00,000-Rs.10,000}}{\text{10 years x 4,000 hours}}\right]$		24.75
III.	Electricity (8 units x Rs. 3.75)		30.00
	Machine hour rate		**56.97**

(3 Marks)

Working Note

1. Calculation of productive Machine hour rate

Total hours	4,200
Less: Non-Productive hours	200
Effective machine hours	4,000

* Rs. 3,880 ÷ 4,000 hours = Rs. 0.97

(1 Mark)

Answer-4 :

(i) Material Usage Variance = Std. Price (Std. Quantity – Actual Quantity)
= Rs. 45 (9,000 kg. – 8,900 kg.)
= Rs. 4,500 (Favourable)

(ii) Material Price Variance = Actual Quantity (Std. Price – Actual Price)
= 8,900 kg. (Rs. 45 – Rs. 46) = Rs. 8,900 (Adverse)

(iii) Material Cost Variance = Std. Material Cost – Actual Material Cost
= (SQ × SP) – (AQ × AP)
= (9,000 kg. × Rs. 45) – (8,900 kg. × Rs. 46)
= Rs. 4,05,000 – Rs. 4,09,400
= Rs.4,400 (Adverse)

(iv) Labour Efficiency Variance = Std. Rate (Std. Hours – Actual Hours)
= Rs. 50 $\left(\frac{9,000}{10}\ \text{x 8 hours - 7,000 hours}\right)$
= Rs. 50 (7,200 hrs. – 7,000 hrs.)
= Rs. 10,000 (Favourable)

(v) Labour Rate Variance = Actual Hours (Std. Rate – Actual Rate)
= 7,000 hrs. (Rs. 50 – Rs.52)
= Rs. 14,000 (Adverse)

(vi) Labour Cost Variance = Std. Labour Cost – Actual Labour Cost
= (SH × SR) – (AH × AR)
= (7,200 hrs. × Rs. 50) – (7,000 hrs. × Rs. 52)
= Rs. 3,60,000 – Rs. 3,64,000
= Rs.4,000 (Adverse)

(vii) Variable Cost Variance = Std. Variable Cost – Actual Variable Cost
= (7,200 hrs. × Rs. 10) – Rs. 72,500
= Rs. 500 (Adverse)

(viii) Fixed Overhead Cost Variance = Absorbed Fixed Overhead – Actual Fixed Overhead

$$= \frac{\text{Rs.}200}{10 \text{ kgs.}} \text{ x } 9{,}000 \text{ kgs} - \text{Rs.}1{,}92{,}000$$

= Rs. 1,80,000 – Rs. 1,92,000 = Rs. 12,000 (Adverse)

(8 x 1 = 8 Marks)

Answer-5 :

(i) Statement of Cost and Profit under Marginal Costing for the year ending 31st March, 2014

Output = 3,20,000 units

Particulars	**Amount(Rs.)**	**Amount(Rs.)**
Sales: 3,10,000 units @ Rs. 80		2,48,00,000
Less: Marginal cost / variable cost:		
Variable cost of production (3,20,000 xRs. 40)	1,28,00,000	
Add: Opening stock 40,000 units @ Rs.40	16,00,000	
	1,44,00,000	
Less: Closing Stock		
[(3,20,000 + 40,000 – 3,10,000) @ Rs. 40= 50,000 units @ Rs. 40]	20,00,000	
Variable cost of production of 3,10,000 units	1,24,00,000	
Add: Variable selling expenses @ Rs. 12 per unit	37,20,000	1,61,20,000
Contribution (sales – variable cost)		86,80,000
Less: Fixed production cost	24,00,000	
Fixed selling expenses	16,00,000	40,00,000
Actual profit under marginal costing		46,80,000

(4 Marks)

(ii) Statement of Cost and Profit under Absorption Costing for the year ending 31st March, 2014

Output = 3,20,000 units

Particulars	**Amount (Rs.)**	**Amount (Rs.)**
Sales: 3,10,000 units @ Rs. 80		2,48,00,000
Less: Cost of sales:		
Variable cost of production(3,20,000 @ Rs. 40)	1,28,00,000	
Add: Fixed cost of production absorbed		
3,20,000 units @ Rs. 6[(1)]	19,20,000	
	1,47,20,000	
Add: Opening Stock 40,000 x $\frac{1,47,20,000}{3,20,000}$	18,40,000	
Less: Closing Stock: 50,000 x $\frac{1,47,20,000}{3,20,000}$	23,00,000	
Production cost of 3,10,000 units	1,42,60,000	
Selling expenses:		
Variable: Rs. 12 x 3,10,000 units	37,20,000	
Fixed	16,00,000	1,95,80,000
Unadjusted profit		52,20,000
Less: Overheads under absorbed: [(2)]		
Fixed production overheads		4,80,000
Actual profit under absorption costing		47,40,000

(4 Marks)

Workings:

1. Absorption rate for fixed cost of production = $\frac{\text{Rs.}24,00,000}{4,00,000 \text{ units}}$ = Rs.6 per unit

2. Fixed production overhead under absorbed = Rs. (24,00,000 – 19,20,000)
= Rs. 4,80,000.