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SUGGESTED SOLUTION

IPCC NOVEMBER 2018 EXAM

COSTING

Test Code -

BRANCH - (MUMBAI-4) (GD-1) (Date : 01.07.2018)

Head Office : Shraddha, 3rd Floor, Near Chinai College, Andheri (E), Mumbai – 69.
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Answer-1 :A

Process A .Period : February 20X1
Average Method Output : 10,000 units
Statement of Equivalent Production

Input		Output		Equivalent Production					
Particulars	Units	Particulars	Units	Material		Labour		Overhead	
				Units	%	Units	%	Units	%
Opening stock	4,000	Units completed:	14,000	14,000	100	14,000	100	14,000	100
		Closing stock	6,000	6,000	100	2,000	33.1/3	2,000	33.1/3
New Units introduced	16,000								
	20,000		**20,000**	**20,000**		**16,000**		**16,000**	

Statement of Cost for each Element

Elements of Cost	Cost of opening WIP Rs.	Cost in Process Rs.	Total Cost Rs.	Equivalent Production Rs.	Cost per unit Re.
Material	1,200	5,120	6,320	20,000	0.316
Labour	200	3,000	3,200	16,000	0.200
Overhead	200	3,000	3,200	16,000	0.200

Statement of Apportionment of Cost

Items	Element	Equivalent Production	Cost per unit Rs.	Cost Rs.	Total Cost Rs.
Units	Material	14,000	0.316	4,424	
completed	Labour	14,000	0.200	2,800	
	Overhead	14,000	0.200	2,800	10,024
Closing Stock	Material	6,000	0.316	1,896	
	Labour	2,000	0.200	400	
	Overhead	2,000	0.200	400	2,696

Dr. **Process A Account** **Cr.**

Particulars	Units	Amount	Particulars	Units	Amount
To Opening Stock	4,000	Rs.1,600	By units completed and transferred	14,000	Rs.10,024
To New units introduced	16,000		By Closing stock.		
Material				6,000	2,696
Labour		5,120			
Overhead		3,000			
		3,000			
	20,000	**12,720**		**20,000**	**12,720**

Answer-1 :B

As per Financial Books Profit and Loss Account

(for the year ended 31st March, 1995)

To Direct Material	Rs.5,00,000	By Sales (50,000 units)	Rs. 10,00,000
" Direct Wages	2,50,000	" Interest and dividend	15,000
" Factory Expenses (actual)	1,50,000		
" Admn. Expenses	45,000		
" Selling & Distribution Expenses	30,000		
" Profit	40,000		
	10,15,000		**10,15,000**

As per above account, profit is Rs. 40,000 for the year ended 31st March, 1995.

(b) Cost Sheet

(for the year ended 31st March, 1995)

Normal production capacity (units)		60,000
Sales/Production (units)		50,000
Direct materials		Rs.5,00,000
Direct wages		2,50,000
Prime cost		7,50,000
Factory overhead – Variable	Rs.60,000	
- Fixed Rs. 90,000 x 5/6	75,000	1,35,000
Works cost		8,85,000
Administrative expenses Rs. 45,000 x 5/6		37,500
Total cost of production		9,22,500
Selling and distribution expenses		
-Variable	Rs. 18,000	
- Fixed Rs. 12,000 X 5/6	10,000	28,000
Cost of Sales		9,50,500
Profit (balance)		49,500
Sales		10,00,000

(c)Reconciliation Statement

Profit as per Cost Accounts	Rs. 49,500	
Add: Income from dividend (not considered in Cost Accounts)	15,000	64,500
Less: Expenses undercharged in Cost Accounts:		
(i) Factory expenses (1,50,000 - 1,35,000)	15,000	
(ii) Adm. expenses (45,000 - 37,500)	7,500	
(iii) Selling & Distribution (30,000 - 28,000)	2,000	24,500
Profit as per financial accounts		40,000

Answer-2 :A

Joint Products	No. of units	S.P. per unit	Sales Value

A	500	Rs. 18	Rs. 9,000
B	900	8	7,200
C	400	4	1,600
D	200	11	2,200
Total Sales value			20,000
Less : Budgeted profit (10%)			2,000
Total Joint Costs			18,000

(a) Maximum price to be paid for R.M.

Total Joint Costs		Rs.18,000
Less :Other costs		
Carriage inwards	Rs.1,000	
Direct wages	3,000	
Manufacturing overhead	2,000	
Administration overhead	2,000	8,000
Maximum price to be paid to R.M.		10,000

(b) (i) Comprehensive Cost Statement (based on number of units)

	A	B	C	D	Total
Number of units	500	900	400	200	2,000
R.M. @Rs. 5	2,500	4,500	2,000	1,000	10,000
Carriage @ Re. 0.5	250	450	200	100	1,000
Direct wages @ Rs. 1.5	750	1,350	600	300	3,000
Mfg. Ohd. @ Re. 1	500	900	400	200	2,000
Admn. Ohd. @ Re. 1	500	900	400	200	2,000
Total cost	4,500	8,100	3,600	1,800	18,000

(ii) Comprehensive Cost based on Sales Value(Rs.)

	A	B	C	D	Total
Sales value	9,000	7,200	1,600	2,200	20,000
Raw material	4,500	3,600	800	1,100	10,000
Carriage	450	360	80	no	1,000
Direct wages	1,350	1,080	240	330	3,000
Mfg. overhead	900	720	160	220	2,000
Admn. overhead	900	720	160	220	2,000
Total cost	8,100	6,480	1,440	1,980	18,000

Answer-2 B

Dr. Integral Ledger Cr.

Store Control A/c.

	Rs.		Rs.
To Balance b/d	1,00,000	By Work in progress A/c	2,00,000
To Creditors A/c	1,60,000	By Inventory Adj. A/c	8,000
		By Balance c/d	52,000
	2,60,000		**2,60,000**
To Balance b/d	**52,000**		

Dr. **Work in Progress A/c/** **Cr.**

	Rs.		Rs.
To stores Control A/c	2,00,000	By Finished Stock A/c	3,82,000
To Wages Control A/c	1,86,000	By Balance c/d	1,90,00
To Production Overhead A/c	1,86,000		
	5,72,000		**5,72,000**
To Balance b/d	**1,90,000**		

Dr. **Finished Goods A/c** **Cr.**

	Rs.		Rs.
To Work in progress A/c	3,82,000	By Cost of Sales A/c	3,82,000
	3,82,000		**3,82,000**

Dr. **Wages Control A/c** **Cr.**

	Rs.		Rs.
To Bank	1,90,000	By W.I.P.A/c.	1,86,000
		By Balance c/d	4,000
	1,90,000		**1,90,000**
To Balance b/d	**4,000**		

Dr. **Production Overhead A/c.** **Cr.**

	Rs.		Rs.
To Bank	1,75,000	By work in progress A/c	1,86,000
To Balance c/d	11,000		
	1,86,000		**1,86,000**

Dr. **Selling and Distribution Expenses A/c.** **Cr.**

	Rs.		Rs.
To Bank	20,000	By Cost of Sales A/c	20,000
	20,000		**20,000**

Dr. **Cost of Sales A/c.** **Cr.**

	Rs.		Rs.
To Finished Stock A/c.	3,82,000	By Balance c/d	4,02,000
To Selling & Distribution Overhead A/c			
To Balance b/d	20,000		

	4,02,000		**4,02,000**

Dr. **Sales A/c.** **Cr.**

	Rs.		**Rs.**
To Balance c/d	5,72,000	By Debtors A/c	5,72,000
	5,72,000		**5,72,000**
		By Balance b/d	**5,72,000**

Dr. **Share Capital A/c.** **Cr.**

	Rs.		**Rs.**
		By Balance b/d	2,00,000
			2,00,000

Dr. **Reserve A/c.** **Cr.**

	Rs.		**Rs.**
		By Balance b/d	50,000
			50,000

Dr. **Plant and Machinery A/c.** **Cr.**

	Rs.		**Rs.**
To Balance b/d	2,50,000		
	2,50,000		

Dr. **Sundry Debtors A/c.** **Cr.**

	Rs.		**Rs.**
To Balance b/d	40,000	By Bank A/c	6,00,000
To Sales	5,72,000	By Balance c/d	12,000
	6,12,000		**6,12,000**

Dr. **Sundry Creditors A/c.** **Cr.**

	Rs.		**Rs.**
To Bank	1,70,000	By Balance b/d	60,000
To Balance c/d	50,000	By Stores Control A/c	1,60,000
	2,20,000		**2,20,000**
		By Balance b/d	**50,000**

Dr. **Bank Account** **Cr.**

	Rs.		**Rs.**
To Sundry Debtor's A/c	6,00,000	By Balance b/d	80,000
To Balance c/d	35,000	By Wages Control A/c	1,90,000
		By Production Control A/c	1,75,000
		By Selling & Dist.Exp. Control A/c	20,000
		By Sundry Creditor's A/c	1,70,000
	6,35,000		**6,35,000**

		By Balance b/d	**35,000**

Dr. **Inventory Adjustment A/c** **Cr.**

	Rs.		**Rs.**
To Store Ledger Control A/c	8,000	By Balance c/d	8,000
	8,000		**8,000**
To Balance b/d	**8,000**		

Dr. **Trial Balance as on 31st December, 2002** **Cr.**

	Dr. Rs.	**Cr. Rs.**
1. Share Capital		2,00,000
2. Reserve Account		50,000
3. Sundry Debtors	12,000	-
4. Sundry Creditors		50,000
5. Plant and Machinery Account	2,50,000	-
6. Bank Account		35,000
7. Stores Ledger Control Account	52,000	-
8. Work in progress Account	1,90,000	
9. Wages Control Account	4,000	
10. Production Overhead Account		11,000
11. Inventory Adjustment Account	8,000	
12. Cost of Sales Account	4,02,000	
13. Sales Account		5,72,000
	9,18,000	**9,18,000**

Dr. **Profit and Loss Account for the year ended 31.12.2002** **Cr.**

	Rs.		**Rs.**
To Cost of Sales A/c	4,02,000	By Sales A/c	5,72,000
To Inventory Adjustment A/c	8,000	By Production Overhead A/c	11,000
To Wages Control A/c	4,000		
To Net Profit	1,69,000		
	5,83,000		**5,83,000**

Dr. **Balance Sheet as at 31st December, 2002** **Cr.**

Liabilities		**Rs.**	**Assets**		**Rs.**
Share Capital	2,00,000		Plant and Machinery		2,50,000
Reserve	50,000		Stock of :		
Profit	1,69,000	4,19,000	Finished goods	52,000	
Sundry Creditors		50,000	W.I.P.	1,90,000	2,42,000
Bank Overdraft		35,000	Sundry Debtors		12,000
		5,04,000			**5,04,000**

Answer-3 :A (1)

Standard labour rate per hour = (15.30/9) x 10 = Rs. 17 per hour

L_1— Actual payment for actual hours —

L_2— Actual hours worked at standard rate - 13,500 x Rs. 17 % = Rs. 2,29,500

L_3— Labour hours available at standard rate

[13,500-10% of 13,500] xRs. 17 2,06,550

L_4— Labour hours worked - 12,420 hours x Rs. 17 = 2,11,140

L_5— Labour cost for output 1,800 units x 6 hrs x Rs. 17 = 1,83,600

Labour Idle Time Variance - L_3 - L_4= Rs. 2,06,550 - Rs. 2,11,140 = Rs. 4,590 (F)

Labour Efficiency Variance - L_4– L_5 - Rs. 2,11,140 - Rs. 1,83,600 = Rs. 27,540 (A)

Answer-3 :A 2

VO_1 - Actual variable overhead incurred = Rs.28,000

VO_2 - Actual hours worked at standard variable overhead rate per hour (10,500 hours x Rs. 3) = Rs.31,500

VO_3 - Standard variable overhead for production

5,000 units x 2 hours x Rs. 3 30,000

Variable Overhead Efficiency Variance = VO_2 - VO_3

= Rs. 31,500 - Rs. 30,000 = Rs. 1,500 (A).

Answer-3 :B 1

Total cost of 1,50,000 units (x Rs. 41.50)	=	Rs. 62,25,000
Total cost of 1,00,000 units (x Rs. 47.50)	=	47,50,000
Variable Cost of 50,000 units		14,75,000

Variable Cost per unit = Rs. 14,75,000 ÷ 50,000 units - Rs. 29.50

Substituting

Total Cost of 1,00,000 units	Rs. 47,50,000
Variable Cost of 1,00,000 units (x Rs. 29.50)	29,50,000
Fixed cost	18,00,000

Break-even Point = $\frac{\text{Rs.}18,00,000}{(Rs.49.50 - Rs.29.50)} = 90,000 \text{ units}$

Answer-3 :B 2

New Fixed Cost = Rs. 10,000 x 1,20 = Rs. 12,000

Units required to break-even = Rs. 12,000 ÷ Contribution per unit

= Rs. 12,000 ÷ Rs. 4 = 3,000 units

Budgeted units of sales =5,000 unit

In percentage terms, margin of safety = $\frac{2,000}{5,000}$ x 100 = 40%

Answer- 4:A

L_1—Actual payment to workers for actual worked

Actual composition of gang		**Hrs. worked**		**Rate**	**Amount**
13 Men	X	40	X	Re. 0.600	Rs. 312
4 Women	X	40	X	0.425	68
3 Boys	X	40	X	0.325	39
					419

L_2—Payment involved, if workers had been paid at standard rate

Actual composition of gang	Hrs. worked	S. Rate	Amount

13 Men	X	40	X	Re. 0.625	Rs. 325
4 Women	X	40	X	0.400	64
3 Boys	X	40	X	0.350	42
					431

L_3—Payment involved, if workers had been used according to proportion of standard gang and payment had been made at standard rate

Standard composition of gang		Hrs. worked		S. Rate	Amount
10 Men	X	40	X	Re. 0.625	Rs. 250
5 Women	X	40	X	0.400	80
5 Boys	X	40	X	0.350	70
					40C

L_4—Standard labour cost of labour hours utilized—

Standard composition of gang		Hrs. worked		S. Rate	Amount
10 Men	X	38	X	Re. 0.625	Rs. 237.50
5 Women	- X .	38	X	0.400	76.00
5 Boys :	X	38	X	0.350	66.50
					380.00

L_5—Standard labour cost of output achieved.

$$\frac{\text{Standard labour cost for standard output}}{\text{Standard output}} \text{ x Actual output}$$

$$= \frac{\text{Rs.}400}{1,000\,units} \text{ x 960 units or Rs.384}$$

Variance

1. Labour Rate Variance =L_1- L_2=Rs. 419 - Rs. 431 or Rs. 12 (F)
2. Labour Mix Variance =L_2- L_3=Rs. 431 - Rs. 400 or Rs. 31 (A)
3. Labour Idle Time Variance = L_3- L_4=Rs. 400 - Rs. 380 or Rs. 20 (A)
4. Labour Yield Time Variance = L_4- L_5=Rs. 380 - Rs. 384 or Rs. 4 (F)
5. Labour Efficiency Variance = L_2- L_5 = Rs. 431 - Rs. 384 or Rs. 47 (A)

Alternatively, Labour Efficiency Variance

= Labour Mix Variance + Labour Idle Variance + Labour Yield variance

= 31 (A) + 20 (A) + 4 (F) or Rs. 47 (A)

6. Labour Cost variance = L_1– L_5 = Rs. 419 - Rs. 384 or Rs. 35 (A)

Alternatively, Labour Cost variance = Labour Rate Variance + Labour Mix Variance + LabourIdle Time Variance + Labour Yield Variance = 12 (F) + 31 (A) + 20 (A) + 4 (F) or 35 (A)

Answer-4-B

(i) Overheads application base: Direct labour hours

	Equipment Y (Rs.)	**Equipment Z (Rs.)**
Direct material cost	300	450
Direct labour cost	450	600
Overheads*	186.38	248.50

	936.38	1,298.50

$$\text{*Pre-determined rate} = \frac{\text{Budgeted overheads}}{\text{Budgeted direct labour hours}} = \frac{\text{Rs.}12,42,500}{20,000 \text{ hours}} = Rs.62.125$$

Answer-5 :A

Before process cost accounts, process cost sheet should be prepared.

Process III **Process Cost Sheet** **Period**

(FIFO Method)

O/S—1,600 units

Introduced—42,400 units **Statement of Equivalent Production**

Input		Output		Equivalent Production					
Item	Units	Items	Units	Material A		Material B		Labour & Overhead	
				Units	%	Units	%	Units	%
Op/ stock	1,600	Normal loss	2,000	-	-	-	-	-	-
Process II transfer	42,400	Completed :(a) Work on Op. WIP(b) Introduced & completed	1,600 36,800	- 36,800	- 100	320 36,800	20 100	640 36,800	40 100
		Cl. WIP	4,000	4,000	100	2,800	70	2,000	50
		Less Abnormal gain	400	400	100	400	100	400	100
	44,000		44,000	40,400		39,520		39,040	

Statement of cost for each Element

Elements of cost		Cost Rs.	Equivalent Production Unit	Cost per unit Rs.
Material A: Transfer from previous Process Less value of normal scrap	Rs.3,29,200 6,000	3,23,200	40,400	8
Material B :Added in the process III		1,58,080	39,520	4
Labour		78,080	39,040	2
Overhead		39,040	39,040	1
Total Cost		**5,98,400**		

Statement of Apportionment of Cost

Items	Elements	Equivalent production Units	Cost per unit Rs.	Cost Rs.	Total Rs.
Opening WIP (For completion)	Material A	-	8	-	-
	Material B	320	4	1,280	
	Wages	640	2	1,280	
	Overhead	640	1	640	3,200
Introduced and completed during the	Material A	36,800	8	2,94,400	

period	Material B	36,800	4	1,47,200	
	Wages	36,800	2	73,600	
	Overhead	36,800	1	36,800	5,52,000
Closing WIP	Material A	4,000	8	32,000	
	Material B	2,800	4	11,200	
	Wages	2,000	2	4,000	
	Overhead	2,000	1	2,000	49,200
Abnormal Gain	Material A	400	8	3,200	
	Material B	400	4	1,600	
	Wages	400	2	800	
	Overhead	400	1	400	6,000
	Total Cost (Total cost less cost of abnormal gain)				5,98,400

Process III

Details	Units	Amount	Details	Units	Amount
To Balance b/d	1,600	Rs. 20,600	By Normal Loss	2,000	Rs 6,000
To Process II A/c	42,400	3,29,200	By Process IV A/c	38,400	5,75,800
By Direct Materials		1,58,080	By C/Stock c/d	4,000	49,200
By Labour		78,080			
By Overhead		39,040			
By Abnormal Gain	400	6,000			
	44,400	6,31,000		44,400	6,31,000
By balance b/d	4,000	49,200			

Abnormal Gain Account

	Units	Amount		Units	Amount
To process III Scrap	400	Rs, 1,200	By Process III A/c	400	Rs, 6,000
To Profit and loss account		4,800			
	400	6,000		400	6,000

Notes :

(i) Production = Opening units + units introduced - closing units

= 1,600 + 42,400 - 4,000 = 40,000 units

(ii) Process IV accounts transfer. This comprises:

(a)	Value of opening stock	Rs.20,600
(b)	Charge for completing O/stock	3,200
(c)	Charge for units introduced and completed	5,52,000
		5,75,800

Answer-5 :B

Dr. Raw Material Control Account Cr.

	Rs.		Rs.
To Balance b/d	48,836	By WIP Control A/c	17,000
To Nominal Ledger Control A/c	22,422	By Nominal Ledger Control A/c	1,000
		By Nominal Ledger Control A/c	1,300
		By Balance c/d	51,958

	71,258		**71,258**
To Balance b/d	**51,958**		

Dr. **Work in Progress Control A/c** **Cr.**

	Rs.		**Rs.**
To Balance b/d	14,745	By Finished Stock Control A/c	36,834
To Nominal Ledger Control A/c	11,786	By Nominal Ledger Control A/c	1,800
To Raw Material Control A/c	17,000	By Balance c/d	23,267
To Nominal Ledger Control A/c	18,370		
	61,901		**61,901**
To Balance b/d	**23,267**		

Dr. **Finished Stock Account** **Cr.**

	Rs.		**Rs.**
To Balance b/d	21,980	By Nominal Ledger Control A/c	42,000
To WIP Control A/c	36,.834	By Balance c/d	19,814
To Nominal Ledger Control A/c	3,000		
	61,814		**61,814**
To Balance b/d	**19,814**		

Dr. **Nominal Ledger Control Account** **Cr.**

	Rs.		**Rs.**
To Raw Material Control A/c	1,000	By Balance b/d	85,561
To Raw Material Control A/c	1,300	By Raw Material Control A/c	22,422
To Finished Stock Control A/c	42,000	By WIP Control A/c	11,786
To WIP Control A/c	1,800	By WIP Control A/c	18,370
To Balance c/d	95,039	By Finished Stock Control A/c	3,000
	1,41,139		**1,41,139**
		By Balance b/d	**95,039**

Answer-6-A

Stores Ledger of AT Ltd., for the month of September, 20X1 (FIFO Method)

Date	**RECEIPT**						**ISSUE**			**BALANCE**	
	GNR No. MRR No.	**Qty. Units**	**Rate Rs.**	**Amount Rs.**	**Requi-sition No.**	**Qty. Units**	**Rate Rs.**	**Amount Rs.**	**Qty. Units**	**Rate Rs.**	**Amount Rs.**
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**
1.9.x1	-	-	-	-	-	-	-	-	25	6.50	162.50
4.9.x1	-	-	-	-	85	8	6.50	52	17	6.50	110.50
6.9.x1	26	50	5.75	287.50	-	-	-	-	17 50	6.50 5.75	398.00
7.9.x1	-	-	-	-	97	12	6.50	78	5 50	6.50 5.75	320.00

10.9.x1	-	-	-	-	Nil	10	5.75	57.50	5 40	6.50 5.75	262.00
12.9.X1	-	-	-	-	108	5 10	6.50 5.75	90	30	5.75	172.50
13.9.X1	-	-	-	-	110	20	5.75	115	10	5.75	57.50
15.9.X1	33	25	6.10	152.50	-	-	-	-	10 25	5.75 6.10	210.00
17.9.X1	-	-	-	-	121	10	5.75	57.50	25	6.10	152.50
19.9.X1	38	10	5.75	57.50	-	-	-	-	25 10 5	6.10 5.75 5.75	210.00
20.9.X1	4	5	5.75	28.75	-	-	-	-	25 10	6.10 7.75	258.75
26.9.X1	-	-	-	-	146	5 5	5.75 6.10	59.25	20 10	6.10 5.75	179.50
30.9.X1	-	-	-	-	Shortage	2	6.10	12.20	18 10	6.10 5.75	167.30

Question-6-B **(10 Marks)**

In manufacturing the main product A, a company processes, the resulting waste material into two by-products M_1 and M_2. Using the method of working back from sales value to an estimated cost, you are required to prepare a comparative profit and loss statement of the three products from the following data :

(i) Total cost up to separation point was Rs. 1,36,000

		A	**M_1**	**M_2**
(ii)	Sale (all production)	Rs. 3,28,000	Rs. 32,000	Rs. 48,000
(iii)	Cost after separation	—	9,600	14,400
(iv)	Estimated net profit as percentage to sale value	—	20%	30%
(v)	Estimated selling expenses as percentage of sale value	20%	20%	20%

Answer-4 :

Statement showing the apportionment of joint costs at the point of separation

Total cost up to point of separation			Rs. 1,36,000
Less : Cost of By-products by working backward	M_1	M_2	
Sales realisation	Rs. 32,000	Rs. 48,000	
Less : Net profit	M_1	M_2	
(20% and 30% of Sales)	6,400	14,400	
Selling expenses (20% of sale)	6,400	9,600	
Cost after separation	9,600	14,400	
		22,400	38,400
		9,600	9,600	19,200
Cost to be apportioned after split-off point			1,16,800

Comparative Profit and Loss Account

Details	**A**	**M_1**	**M_2**	**Total**
1. Sales Rs.	3,28,000	Rs. 32,000	Rs. 48,000	Rs. 4,08,000
2. Cost of Sales				
Pre-Separation cost	1,16,800	9,600	9,600	1,36,000

Post-Separation cost	—	9,600	14,400	24,000
Cost of production	1,16,800	19,200	24,000	1,60,000
Selling expenses	65,600	6,400	9,600	81,600
Cost of Sales	1,82,400	25,600	33,600	2,41,600
3. Profit (1-2)	1,45,600	6,400	14,400	1,66,400
4. Profit as a % of sales	44.4%	20%	30%	40.8%