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IPCC NOVEMBER 2018 EXAM

COSTING

Test Code - M N 1

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

Head Office : Shraddha, 3rd Floor, Near Chinai College, Andheri (E), Mumbai – 69.
Tel : (022) 26836666

Answer-1 :A **(10 Marks)**

MNP Construction Ltd.

Dr. Contract Account (1st April 1999 to 31 March, 2000) Cr.

Particulars		Amount	Particulars	Amount
To Materials issued		Rs. 3,00,000	By Plant returned to stores	Rs. 37,500
To Labour paid Rs.	2,00,000		(Note 1)	
Outstanding	20,000	2,20,000	By Materials at site	20,000
To Plant purchased		1,50,000	By Work certified	8,00,000
To Expenses paid	75,000		By Work uncertified	25,000
Less : Prepaid	15,000	60,000	By Plant at site	75,000
Notional Profit c/d		2,27,500	(Note 2)	
		9,57,500		**9,57,500**
To Profit and Loss A/c(Note 4)		66,321.43	By Notional Profit b/d	2,27,500
To Work-in-Progress A/c		1,61,178.57		
		2,27,500.00		**2,27,500.00**

MNP Construction Ltd.

Contract Account (1st April, 1999 to 31st December, 2000)

(For computing estimated profit)

Particulars	Amount	Particulars	Amount
To Materials used (Rs.3,00,000 + 5,50,000	8,50,000.00	By Material at site	50,000.00
To Labour (2,00,000 + 2,50,000 + 30,000)	4,80,000.00	By Plant returned to store on 31st March 1999	37,500.00
To Plant purchased	1,50,000.00	By Plant returned to store on 31.12.2000 (Note 3)	60,937.50
To Expenses (75,000 + 1,50,000)	2,25,000.00	By Contractor A/c	17,50,000.00
To Estimated Profit	1,93,437.50		
	18,98,437.50		**18,98,437.50**

Working Notes :

1. Value of Plant returned to store on 31st March, 2000

Historical cost of plant returned	Rs.50,000
Less : Depreciation at 25% for 1 year	12,500
Value of Plant returned to store on 31st March, 2000	37,500

2. Value of Plant at site

Historical cost	Rs.1,00,000
Less : Depreciation at 25% for 1 year	25,000
	75,000

3. Value of Plant returned to store on 31st December, 2000

Value of Plant on 31st March, 2000	Rs.75,000.00
Less : Depreciation at 25% for 9 months	
Rs. 75,000 x (25/100) x (9/12)	14,062.50

60,937.50

4. Profit to be credited to P/L A/c on 31st March, 2000 for the contract likely to be completed on 31st December, 2000.

$$\text{Estimated Profit} \times \frac{\text{Cash received}}{\text{Work certified}} \times \frac{\text{Work certified}}{\text{Total contract price}}$$

$$= \text{Rs.}1,93,437.50 \times \frac{\text{Rs.}6,00,000}{\text{Rs.}8,00,000} \times \frac{\text{Rs.}8,00,000}{\text{Rs.}17,50,000}$$

= Rs.66,321.43

Answer-1 :B

Before computing the comprehensive machine hour rate, it is necessary to find out the total machine hours utilized and total wages paid to the operators.

Computation of total machine hours utilized :

Normal available hours p.m. per operator		208 hours
Less: Unutilised hours due to:		
Absenteeism	18hours	
Leave	20	
Idle time	10	48
Total hours utilized p.m. per operator		160

Total hours utilized for 6 months for 6 operators = 160 x 6 x 6 or 5,760 hrs.

It is given in the question that the machines cannot work without an operator wholly engaged on it. Therefore, hours utilized for 6 operators, i.e., 5,760 hrs. represents the total machine hours. Total wages to 6 operators for 6 months :

Average rate of wages per hour = Rs. 20 ÷ 8 hrs. = Rs. 2.50

Normal hours for which wages are to be paid = 208 - 18 or 190 hrs.

Wages for 6 months for 6 operators @ Rs. 2.50/hr = 190 x 6 x 6 x 2.50 or Rs. 17,100.

Computation of Comprehensive Machine Hour Rate for the Machine Shop

Operators' wages (as above)	Rs. 17,100
Production Bonus	2,565
Power consumed	8,050
Supervision and indirect labour	3,300
Lighting and electricity	1,200
Repairs and maintenance (3% of Rs. 8 lakhs) ÷ 2	12,000
Insurance (given for 12 months: reduced to 50% for 6 months)	20,000
Depreciation for 6 months	40,000
Other sundry works expenses for 6 months	6,000
General management expenses for 6 months	27,265
Total overheads for 6 months	1,37,480

Comprehensive Machine Hour Rate = 1,37,480 ÷ 5760 hrs = Rs.23.87 per hour.

Answer-2 :A

Consumption of raw material has to be worked out as follows :

Cost of goods sold	Rs. 56,000
Less : Selling expenses	3,400
	52,600
Less : General and administration expenses	2,600

	50,000
Add : Closing Stock of Finished Goods	18,000
	68,000
Less : Opening Stock of Finished Goods	14,000
	54,000
Add : Closing Stock of Work-in-progress	12,000
	66,000
Less : Opening Stock of Work-in-progress	8,000
	58,000
Less : Factory overheads (16,000 x 100/160)	10,000
Prime Cost	48,000
Less : Direct labour	16,000
Raw Material consumed	32,000

Statement of Cost and Profit

Opening stock of raw materials	8,000
Add : Purchase of raw materials (balancing figure)	32,000
	40,600
Less : Closing stock of raw materials	8,600
Raw Material consumed	32,000
Add ; Direct Labour post	16,000
Prime Cost	48,000
Add : Factory Overheads	10,000
	58,000
Add : Opening Stock of Work-in-progress	8,000
	66,000
Less : Closing Stock of Work-in-progress	12,000
	54,000
Add : General and Administration Expenses	2,600
	56,600
Add : Opening Stock of Finished Goods	14,000
	70,600
Less ; Closing Stock of Finished Goods	18,000
	52,600
Add : Selling Expenses	3,400
	56,000
Sales	75,000
Profit	19,000

Answer-2 :B 1

Decrease in stock = 760 units - 320 units = 440 units

Difference in profit = 440 units x Rs. 5 = Rs. 2,200

Stock decreased. Therefore the absorption profit would be lower as overheads are released from stock.

Absorption Costing Profit = Rs. 78,000 - Rs. 2,200 = Rs. 75,800.

Answer-2 :B 2

Charge to P & L A/c for fixed cost in MarginalCosting (Manufacturing)	Rs.1,80,000
Charge to P & L A/c for fixed cost in Absorption Costing (Rs. 1,80,000 ÷ 1,00,000) x 80,000	1,44,000
	36,000

If marginal costing is used, fixed cost will be charged to profit and loss account for the period and profit will be relatively lower by Rs. 36,000. Charge for selling and adm. cost will be the same under both the methods.

Answer-3 :A

Working Note: Is Let x be the cost of material and y be the normal rate of wage per hour.

Factory Cost of workman Vishnu:

Material cost Rs. x

Wages 60 y

Bonus under Rowan System $= \frac{\text{Time saved}}{\text{Time allowed}}$ x Hrs. worked x Rate per hr.

= (40 + 100) x 60 y = 24 y

Overhead, i.e., 60 x 10 = 600

Factory cost = x + 60 y + 24 y + Rs. 600 = Rs. 7280 or x + 84 y = Rs. 6680 ...(1)

Factory cost of workman Shiva:

Material Rs. x

Wages 80 y

Bonus under Halsey Premium Plan = Hrs. Saved x 50 + 100 x Rate per hr.

= 20X 1/2 X y = 10 y

Overhead (80 x 10) = 800

Factory cost = x + 80y + 10y + Rs. 800= 7,600 or x + 90y = Rs. 6,800 ...(2)

From (i) and (ii) value of y = 20

∴ Rate per hour Rs, 20

Bonus paid to Vishnu = 24 x Rs. 20 = Rs. 480
Bonus paid to Shiva = 10 x Rs. 20 = Rs. 200

(a) Normal Wages = Rs. 20 per hour as per Working Note above.

(b) The cost of material:

We know that x + 90y = Rs. 6,800

or x + (90 x 20) = Rs. 6,800 or x = Rs. 5,000

(c) Comparative statement of the factory cost of the product made by the two workmen

	Vishnu	**Shiva**
Material Cost	Rs. 5,000	Rs. 5,000
Direct Wages 60 x 20	1,200	-
80 x 20	-	1,600
Bonus (See Working Note above)	480	200
Factory Overhead	600	800
Factory Cost	7,280	7,600

Answer-3 :B1

Production:

Sales	53,000 units	
Finishing goods inventory	6,000 units	
	59,000 units	
Requirements of Chemical L:		Kilos
Production of 59,000 needs (59,000 x 4 kilos)	2,36,000	
Decrease in inventory		50,000
Total kilos needed		1,86,000

Note : Each unit of N require 4 kilos of chemical L,

Answer-3 B :2

Actual expenditure on overheads	Rs. 1,08,000
Fixed overheads under-budget	8,000
Budgeted expenditure on overheads	1,16,000
Less: Budgeted variable overhead 22,000 x RS. 3	66,000
Budgeted fixed overhead expenditure	50,000

Answer-4 A :

This cost of placing an order, when component is purchased, is not given. This can be found out by EOQ formula.

$$\text{EOQ} = \sqrt{\frac{2 \text{ x Annual consumption x Cost of placing an order}}{\text{Cost of carrying one unit of inventory for one year}}}$$

Suppose cost ofplacing an order is x.

Substituting the available information

$$2{,}000 = \sqrt{\frac{2 \text{ x } 20{,}000 \text{ x } x}{0.25}} \text{ or } x = Rs.25$$

Cost of placing an order = Rs. 25

Average stock level = Minimum stock level + 1/2 EOQ = 400 + 1/2 (2,000)

= 1,400 units

Comparison of annual costs

Make		**Buy**	
(i) Storage cost 1,400 x 0.25	Rs.350	Purchase Cost : 20,000 x 9	1,80,000
(ii) Ordering cost (20,000 ÷ 2,000) x 25	250		
(iii) Material cost 20,000 x 2	40,000		
(iv) Labour cost 20,000 x 6	1,20,000		
(v) Rental charges Rs. 200 x 12	2,400		
	1,63,000		**1,80,000**

Conclusion : The company should make the component till it has some alternative use for existing capacity. If it is possible to find an alternative use for existing capacity so that opportunity cost exceeds Rs. 17,000, i.e., Rs. 1,80,000 - Rs. 1,63,000, buying will become better than manufacturing. Labour cost has been presumed to be variable cost. Fixed cost being sunk cost is not relevant for decision making.

Answer-4 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. To Selling & Distribution Overhead A/c To Balance b/d	3,82,000 20,000	By Balance c/d	4,02,000
	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 To Sales	40,000 5,72,000	By Bank A/c By Balance c/d	6,00,000 12,000
	6,12,000		**6,12,000**

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

	Rs.		Rs.
To Bank To Balance c/d	1,70,000 50,000	By Balance b/d By Stores Control A/c	60,000 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 To Balance c/d	6,00,000 35,000	By Balance b/d By Wages Control A/c	80,000 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-5 :A

(a) (i) Economic Order Quantity $= \sqrt{\frac{2ab}{CS}}$

$$= \sqrt{\frac{2 \text{ x } 24{,}000 \text{ x } 1.20}{10 \text{ x } 10\%}} = \sqrt{57{,}600} = 240 \text{ packets}$$

(ii) Cost of ordering and carrying :

Per order Rs. 1.20

EOQ 240 packets

Per annum 24,000 packets

For 1 order of 240 packets, cost is Rs. 1.20.

For 24,000 packets, cost will be = (1.20 x 24,000)/240 = Rs. 120

Carrying cost is 10%ofRs. 10 = Re. 1 per packet
Average inventory = 240/2 x 10%of Rs. 10

= 120 x Re. 1 = Rs. 120

Total ordering and carrying cost = Rs. 120 4 Rs. 120 — Rs. 240.

(b) Number of orders $= \frac{\text{Annual usage}}{\text{EOQ}}$

$$= \frac{24{,}000}{240} = 100 \text{ orders per year}$$

Consumption per day $= \frac{2{,}000}{30 \text{ days}}$ packets per month = 66.66 packets

Present supply on hand : 200 packets

66.66 packets last for = 1 day

200 packets will last for = 200 ÷ 66.66 = 3 days

Existing supply lasts for 3 days. Lead time is also 3 days. Hence, next order is to be placed immediately.

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

Dr. **Contract Account for the year ended 31st March, 1994** **Cr.**

	Rs.		Rs.
To Material issued	7,500	By Material returned from site	250
" Direct Wage Paid	4,000	" Material at site	200
" Wages Outstanding	270	" Work-in-Progress :	
" Wage related Cost	500	Work Certified	20,000
" Direct Expenses	902	Work not Certified	149
" Plant Hire Charges	1,750		
" Planning and Estimating Cost	1,000		
" Site Office Cost	678		
" Head Office Expenses apportioned	375		
" Depreciation of plant (Refer to Note 1)	300		
" Notional Profit	3,324		
	20,599		**20,599**
" Profit & Loss A/c (Refer to Note 2)	1,662	By Notional Profit	3,324
To Work in Progress (Profit in reserve)	1,662		
	3,324		**3,324**
To Work in progress b/d		By Work in progress	1,662
Work certified	20,000	(Profit in reserve)	

Work uncertified	199		

Working Note :

Depreciation:

Original Cost of Plant	Rs. 20,06,000
Less : Residual Value	5,00,000
Cost of Plant Used	15,00,000
Life of Plant	5 years

Annual Depreciation = (Rs. 15,00,000 ÷ 5 = Rs. 3,00,000)

(ii) This contract is between 50% to 90% complete. Therefore, two-thirds of the notional profit reduced by the proportion of cash received to work certified should be transferred to the profit and loss account as shown below :

$$= 2/3 \text{ x Notional Profit x } \frac{\text{Cash Received}}{\text{Work certified}}$$

$$= \frac{1}{2} \text{ x Rs.3.324 x } \frac{\text{Rs.15,000}}{\text{Rs.20,000}} = \text{Rs.1,662}$$

(iii) Balance Sheet (extract) as on 31st March, 1994

Liabilities	**Rs. '000**	**Assets**	**Rs. '000**
Profit and Loss A/c	1,662	Plant at site (2000-300)	1,700
Wages Accrued	270	Material at site	200
		Work-in-progress * {Refer to Note)	3,487

Note :

* Work-in-progress A/c (Refer to Contract A/c)	20,149
Less : Profit in Reserve	1,662
	18,487
Less : Cash received	15,000
Net W.I.P. (to be shown in B/S)	3,487

Answer-6 :B

(i) Actual direct labour cost per hour based on the given data

= Rs. 48,00,000 ÷ 4,80,000 = Rs. 10 per hour

Cost of potential hours lost = 12,000 hrs. x Rs. 10 = Rs. 1,20,000

(ii) It is given that 12,000 manhours could not be availed of because of delayed replacement,

∴ Direct labour cost if there was no labour turnover

= Rs. 48,00,000 + Rs. 1,20,000 = Rs. 49,20,000

(iii) Potential loss of sales due to:

Hours lost for delayed replacement	12,000
Unproductive hours: 50% of 9,000 hrs.	4,500
Total hours lost	16,500

(iv)

Actual hours of labour spent	4,80,000
Less: Unproductive labour hours	4,500
	4,75,500

Sales related to productive hours = Rs. 6,00,00,000

∴ Potential loss of sales due to 16,500 hours lost
= (6,00,00,000 ÷ 4,75,500 hrs.) x 16,500 hrs. = Rs. 20,82,019
Total sales if there had been no labour turnover

= Rs. 6,00,00,000 + Rs. 20,82,019 = Rs. 6,20

Other variable expenses (i.e., except material) are Rs. 2,10,00,000 for a sales of Rs.6,00,00,000. Other variable expenses for sales of Rs. 6,20,82,019:

= (2,10,00,000 ÷ 6,00,00,000) x Rs. 6,20,82,019 = Rs.2,17,28,707.

Comparative statement showing the loss of profit due to labour turnover

	Actual	If labour turnover was Nil
Sales (A)	Rs.6,00,00,000	Rs.6,20,82,019
Direct labour	48,00,000	49,20,000
Other variable costs	2,10,00,000	2,17,28,707
Fixed cost	80,00,000	80,00,000
Separation replacement cost	1,00,000	-
Total cost (B)	3,39,00,000	3,46,48,707
Profit (A) – (B)	2,61,00,000	2,74,33,312

Loss of profit due to labour turnover: Rs. 2,74,33,312 - 2,61,00,000 = Rs. 13,33,312.