



J.K. SHAH[®]
TEST SERIES
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SUGGESTED SOLUTION
IPCC NOVEMBER 2016 EXAM
COSTING

Test Code - I N J 1 0 9 1

BRANCH - (MUMBAI) (Date :03.07.2016)

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

Tel : (022) 26836666

Answer-1 :

PQR Construction Ltd.
Contract A/c
(April 1, 2013 to March 31, 2014)

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Materials Issued	4,56,000	By Plant returned to Stores (Working Note 1)	60,000
To Labour	3,05,000	By Materials at Site	30,000
Add: Outstanding	<u>24,000</u>	By W.I.P.	
To Plant Purchased	2,25,000	Certified	12,75,000
To Expenses	1,00,000	Uncertified	<u>40,000</u>
Less: Prepaid	<u>22,500</u>	By Plant at Site (Working Note 2)	1,20,000
To Notional Profit c/d	4,37,500		
	15,25,000		15,25,000
To Costing Profit & Loss A/c (Refer to Working Note 5)	53,763	By Notional Profit b/d	4,37,500
To Work-in-Progress A/c (Profit-in-reserve)	3,83,737		
	4,37,500		4,37,500

(5 Marks)

PQR Construction Ltd.
Contract A/c
(April 1, 2013 to December 31, 2014)
(For Computing estimated profit)

Particulars	Amount (Rs.)	Particulars	Amount (Rs.)
To Materials Issued (Rs. 4,56,000+ Rs. 8,14,000)	12,70,000	By Material at Site	75,000
To Labour Cost (Rs. 3,05,000 + Rs. 24,000 + Rs. 3,56,000* + Rs. 37,500)	7,22,500	By Plant returned to Stores on 31.3.2014.	60,000
To Plant purchased	2,25,000	By Plant returned to Stores on 31.12.2014 (Working Note 3)	1,02,000
To Expenses (Rs. 77,500 + Rs. 1,97,500 + Rs.25,000)	3,00,000	By Contractee A/c	27,12,500
To Estimated profit	4,32,000		
	29,49,500		29,49,500

* Labour paid in 2014-15: Rs. 3,80,000 – Rs. 24,000 = Rs. 3,56,000

(2 Marks)

Working Notes

1. Value of the Plant returned to Stores on 31.03.2014	(Rs.)
Historical Cost of the Plant returned	75,000
Less: Depreciation @ 20% of WDV for one year	<u>(15,000)</u>
	<u>60,000</u>

2.	Value of Plant at Site 31.03.2014	
	Historical Cost of Plant at Site (Rs. 2,25,000 – Rs. 75,000)	1,50,000
	Less: Depreciation @ 20% on WDV for one year	<u>(30,000)</u>
		1,20,000
3.	Value of Plant returned to Stores on 31.12.2014	
	Value of Plant (WDV) on 31.3.2014	1,20,000
	Less: Depreciation @ 20% of WDV for a period of 9 months	<u>(18,000)</u>
		1,02,000
4.	Expenses Paid for the year 2013-14	
	Total expenses paid	1,00,000
	Less: Pre-paid at the end	<u>(22,500)</u>
		77,500
5.	Profit to be credited to Costing Profit & Loss A/c on March 31,2014 for the Contract likely to be completed on December 31,2014.	
	Notional Profit x $\frac{\text{Work Certified}}{\text{Total Contract Price}}$ x $\frac{\text{Cash received}}{\text{Work Certified}}$	
	= 4,32,000 x $\frac{12,75,000}{27,12,500}$ x $\frac{10,00,000}{27,12,500}$	53,763

(3 Marks)

Answer-2 :

(a) (i)

EPS Public School
Statement showing the expenses of operating a single bus and the fleet of 25 buses for a year

Particulars	Per bus per annum (Rs.)	Fleet of 25 buses per annum (Rs.)
Running costs : (A)		
Diesel (Refer to working note 1)	<u>56,832</u>	<u>14,20,800</u>
Repairs & maintenance costs: (B)	<u>16,400</u>	<u>4,10,000</u>
Fixed charges:		
Driver's salary (Rs. 5,000 × 12 months)	60,000	15,00,000
Cleaners salary (Rs. 3,000 × 1/5th × 12 months)	7,200	1,80,000
Licence fee, taxes etc.	2,300	57,500
Insurance	15,600	3,90,000
Depreciation	<u>93,750</u>	<u>23,43,750</u>
Total fixed charges: (C)	<u>1,78,850</u>	<u>44,71,250</u>
Total expenses: (A+B+C)	2,52,082	63,02,050

(5 Marks)

(ii) Average cost per student per month in respect of students coming from adistance of:

(a) 4 km. from the school {Rs. 2,52,082 / (354 students × 12 months)}	
(Refer to Working Note 2)	Rs. 59.34
(b) 8 km. from the school (Rs. 59.34 × 2)	Rs. 118.68
(c) 16 km. from the school (Rs. 59.34 × 4)	Rs. 237.36

(2 Marks)

Working Notes:

1. **Calculation of diesel cost per bus:**

No. of trips made by a bus each day	4
Distance travelled in one trip both ways (16 km. × 2 trips)	32 km.
Distance traveled per day by a bus (32 km. × 4 shifts)	128 km.
Distance traveled during a month (128 km. × 24 days)	3,072 km.
Distance traveled per year (3,072 km. × 10 months)	30,720 km.
No. of litres of diesel required per bus per year (30,720 km. ÷ 10 km.)	3,072 litres
Cost of diesel per bus per year (3,072 litres × Rs. 18.50) Rs.	56,832

(2 Marks)

2. Calculation of number of students per bus:

Bus capacity of 2 trips (60 students × 2 trips)	120 students
1/4th fare students (15% × 120 students)	18 students
½ fare 30% students (equivalent to 1/4th fare students)	72 students
Full fare 55% students (equivalent to 1/4th fare students)	264 students
Total 1/4th fare students	354 students

(1 Mark)

Answer-3 :

Working notes:

1. Computation of time saved (in hours) per month:

$$\begin{aligned}
 & \text{(Standard production time for 6,120 units) – (Actual time taken by the workers)} \\
 = & \text{(6,120 units × 1.975 hours) – (24 days × 8 hours per day × 50 skilled workers)} \\
 = & \text{(12,087 hours – 9,600 hours)} \\
 = & \text{2,487 hours}
 \end{aligned}$$

(1 Mark)

2. Computation of bonus for time saved under Halsey and Rowan schemes:

$$\begin{aligned}
 \text{Time saved} & = 2,487 \text{ hours} \\
 \text{(Refer to working note 1)} & \\
 \text{Wage rate per hour} & = \text{Rs. 30} \\
 \text{Bonus under Halsey Scheme} & = \frac{1}{2} \times 2,487 \text{ hours} \times \text{Rs. 30} \\
 \text{(With 50% bonus)} & = \text{Rs. 37,305} \\
 \text{Bonus under Rowan Scheme} & = \\
 \text{Time allowed} & \\
 \text{Time saved × Time taken × Rate per hour} & \\
 = 2,487 \text{ hours} & \\
 12,087 \text{ hours} & \\
 \times 9,600 \text{ hours} \times \text{Rs. 30} & \\
 = \text{Rs. 59,258.38} &
 \end{aligned}$$

(2 Marks)

(i) Computation of effective rate of earnings under the Halsey and Rowan scheme:

$$\begin{aligned}
 & \text{Total earnings (under Halsey scheme) (Refer to working note 2)} \\
 = & \text{Time wages + Bonus} \\
 = & \text{(24 days × 8 hours + 50 skilled workers × Rs. 30) + Rs. 37,305} \\
 = & \text{Rs. 2,88,000 + Rs. 37,305 = Rs. 3,25,305} \\
 & \text{Total earnings (under Rowan scheme) (Refer to working note 2)} \\
 = & \text{Time wages + Bonus} \\
 = & \text{Rs. 2,88,000 + Rs. 59,258.38} \\
 = & \text{Rs. 3,47,258.38} \\
 \text{Effective rate of earnings per hour (under Halsey Plan)} & = \frac{\text{Rs. 3,25,305}}{9,600 \text{ hours}} = \text{Rs. 33.89} \\
 \text{Effective rate of earnings per hour (under Rowan Plan)} & = \frac{\text{Rs. 3,47,258.38}}{9,600 \text{ hours}} = \text{Rs. 36.17}
 \end{aligned}$$

(3 Marks)

(ii) Savings to the ZED Ltd., in terms of direct labour cost per piece:

	(Rs.)
Direct labour cost (per unit) under time wages system (1.975 hours per unit × Rs. 30)	59.25
Direct labour cost (per unit) under Halsey Plan $\left(\frac{\text{Rs. 3,25,305}}{6,120 \text{ units}} \right)$	53.15
Direct labour cost (per unit) under Rowan Plan $\left(\frac{\text{Rs. 3,47,258.38}}{6,120 \text{ units}} \right)$	56.74

(3 Marks)

Saving of direct labour cost under:
Halsey Plan (Rs. 59.25 – Rs. 53.15) Rs. 6.10
Rowan Plan (Rs. 59.25 – Rs. 56.74) Rs. 2.51

(iii) Advise to ZED Ltd.: (about the selection of the scheme to fulfill assurance)

Halsey scheme brings more savings to the management of ZED Ltd., over the present earnings of Rs.2,88,000 but the other scheme i.e. Rowan scheme fulfils the promise of 20% increase over the present earnings of Rs. 2,88,000 by paying 20.58% in the form of bonus. Hence Rowan Plan may be adopted.

(1 Mark)

Answer-4 :

**Stores Ledger Account
for the three months ending 30th June, 2014
(Weighted Average Method)**

Date	Receipts				Issues				Balance		Rate for further issue (Rs.)
	GRN No. PR No.	Qty. (Kg.)	Rates (Rs.)	Amounts	MR No.	Qty. (Kg.)	Rates (Rs.)	Amount (Rs.)	Qty. (Kg.)	Amount (Rs.)	
2014											
April 1									1,500	7,200	4.80
April 4						1,100	4.80	5,280	400	1,920	4.80
April 10		1,600	5.00	8,000					2,000	9,920	$\frac{9,920}{2,000} = 4.96$
April 20		2,400	4.90	11,760					4,400	21,680	$\frac{21,680}{4,400} = 4.93$
April 24						1,600	4.93	7,888	2,800	13,792	$\frac{13,792}{2,800} = 4.93$
May 5		1,000	5.10d	5,100					3,800	18,892	$\frac{18,892}{3,800} = 4.97$
May 10						1,500	4.97	7,455	2,300	11,437	$\frac{11,437}{2,300} = 4.97$
May 17		1,100	5.20	5,720					3,400	11,157	$\frac{11,157}{3,400} = 5.05$
May 25		800	5.25	4,200					4,200	21,357	$\frac{21,357}{4,200} = 5.09$
May 26						1,700	5.09	8,653	2,500	12,704	$\frac{12,704}{2,500} = 5.09$
May 31					Shortage	80			2,420	12,704	$\frac{12,704}{2,420} = 5.25$
June 11		900	5.40	4,860					3,320	17,564	$\frac{17,564}{3,320} = 5.29$
June 15						1,500	5.29	7,935	1,820	9,629	$\frac{9,629}{1,820} = 5.29$
June 21						1,200	5.29	6,348	620	3,281	$\frac{3,281}{620} = 5.29$
June 24		1,400	5.50	7,700					2,020	10,981	$\frac{10,981}{2,020} = 5.44$
June 30					Shortage	60			1,960	10,981	$\frac{10,981}{1,960} = 5.60$

(10 Marks)

Answer-5 :

Working Notes:

(i) Calculation of no. of employees at the beginning and end of the year

	At the Beginning of the year	At the end of the year
Data Processors	540	1,560
Payroll Processors [Left- 60 + Closing- 40 – Joined- 20]	80	40

Supervisors*	30	90
Voice Agents*	30	30
Assistant Managers*	20	30
Senior Voice Agents	4	12
Senior Data Processors	8	34
Team Leaders	60	0
Total	772	1,796

(3 Marks)

(*) At the beginning of the year:

Strength of Supervisors, Voice Agents and Asst. Managers =

[772 - {540 + 80 + 4 + 8 + 60} employees] or [772 - 692 = 80 employees]

$\left[\left\{ \text{Supervisors } 80 \times \frac{3}{8} = 30, \text{ Voice Agents } 80 \times \frac{3}{8} = 30 \text{ \& Asst. Managers } 80 \times \frac{2}{8} = 20 \right\} \text{employees} \right]$

At the end of the year:

[Supervisor-(Opening- 30 + 60 Joining) = 90; Voice Agents- (Opening- 30 + 20 Joined - 20 Left) = 30]

(ii) No. of Employees Separated, Replaced and newly recruited during the year

Particulars	Separations	New Recruitment	Replacement	Total Joining
Data Processors	60	1,020	60	1,080
Payroll Processors	60	—	20	20
Supervisors	—	60	—	60
Voice Agents	20	—	20	20
Assistant Managers	10	10	10	20
Sr. Voice Agents	—	8	—	8
Sr. Data Processors	—	26	—	26
Team Leaders	60	—	—	—
Total	210	1,124	110	1,234

(Since, Corrs Consultancy Ltd. and its subsidiary are maintaining separate Personnel Department, so transfer-in and transfer-out are treated as recruitment and separation respectively.)

(a) Calculation of Labour Turnover:

$$\text{Replacement Method} = \frac{\text{No. of employees replaced during the year}}{\text{Average number of employees on roll}} \times 100$$

$$= \frac{110}{(772 + 1,796) / 2} \times 100 = \frac{110}{1,284} \times 100 = 8.57\%$$

$$\text{Separation Method} = \frac{\text{No. of employees separated during the year}}{\text{Average number of employees on roll}} \times 100$$

$$= \frac{210}{1,284} \times 100 = 16.36\%$$

(4 Marks)

(b) Labour Turnover under Flux Method :

$$= \frac{\text{No. of employees (Joined + Separated) during the year}}{\text{Average number of employees on roll}} \times 100$$

$$= \frac{\text{No. of employees (Replaced + New recruited + separated) during the year}}{\text{Average number of employees on roll}} \times 100$$

$$= \frac{1,234 + 210}{1,284} \times 100 = 112.46\%$$

(3 Marks)

Labour Turnover calculated by the executive trainee of the Personnel department is incorrect as it has not taken the No. of new recruitment while calculating the labour turnover under Flux method.