

PYQ RTP COMPILER

Chp3 Employee Cost

Costing CA Intermediate Regular Batch May / Sep 2025



Past Year Questions (PYQs)

May 2018 to Jan 2025

PYQ Analysis

Exam	Q No.	Marks	Requirement	Special Points
PYQ - Jan 2025	MCQ 1	2m	Cost of Normal and Abnormal Idle Time	Error in Calculation but no choice with the given options
PYQ - Jan 2025	DQ - 2b	5m	Earnings under both plan and which one is better	Regular
PYQ - Sep 2024	MCQ 13	2m	Wage Rate Reverse Calculation	Easy - Basic
PYQ - Sep 2024	MCQ 14	2m	Separation Rate	Easy - Basic
PYQ - Sep 2024	DQ - 2b	6m	OT Treatment at different situations	Wage Rate calculation taking effective hours after normal idle time, remaining Regular
PYQ - May 2024	MCQ - 4	2m	Earnings under Halsey of effective rate of Rowan is given	Easy - Basic
PYQ - May 2024	DQ - 5a	6m	Loss due to employee turnover	Easy - Basic
PYQ - Nov 2023	1b	5m	Standard Hours, Effective Rate of Earnings	Equation based calculation of SH
PYQ - Nov 2023	6c	5m	Employee Productivity	Theory

PYQ Analysis

Exam	Q No.	Marks	Requirement	Special Points
PYQ - May 2023	5c	5m	How does high employee turnover affect COP	Theory
PYQ - May 2023	1b	5m	Weekly Earnings under - Existing, Halsey, Rowan	Calculation of effective hours considering late shift Earnings under existing system considering no incentive
PYQ - Nov 2022	2b	6m	Wages under time rate, piece rate and bonus plans	Similar to Study Material Problem
PYQ - May 2022	1b	5m	Avg number of workers, left, discharge, recruited and joined, equivalent	Easy - Basic
PYQ - May 2022	6c	5m	Treatment of OT Premium in various situations	Theory
PYQ - Dec 2021	1c	5m	i. Effective earning with Rowan ii. AH for same effective rate with Halsey	Value of hours coming in decimals (Part ii)
PYQ - July 2021	2c	5m	Employee Turnover Rates by Flux and Separation Method, Equivalent Employee Turnover	Equivalent Employee Turnover Rate is Calculated by various ways - days, months
PYQ - July 2021	6c	5m	Rowan and Halsey	Theory
PYQ - Jan 2021	2a	10m	Effective Increase in Earnings due to Incentive, Savings to Co. after scheme, Selection of Scheme	Part iii - comment on scheme which fulfill assurance of wage increase and cope up increased demand

PYQ Analysis

Exam	Q No.	Marks	Requirement	Special Points
PYQ - Nov 2020	4b	6m	Ordinary Wage Rate and Allocation of Wages	Similar to a Study Mat Problem
PYQ - Nov 2020	4c	4m	Objectives of Time Keeping	Theory
PYQ - Nov 2019	4a	10m	Normal Wage Rate, Conversion Costs	Back calculation of Wages from Conversion Cost by deducting overheads and then use it to get hourly rate. Normal hours for the week is taken as SH
PYQ - May 2019	1b	5m	Total Earnings as per Rowan, Halsey, Day Wage, Piece System	Piece Rate System (assumed standard efficiency)
PYQ - Nov 2018	5b(i)	5m	Annual Cost, Emp Cost per hour, Cost of abnormal time per employee	Employee Welfare cost is a common cost for all employees, hours calculation done in alternative ways
PYQ - May 2018	1b	5m	Factory cost as per both schemes	Easy - Basic
PYQ - May 2018	3a	10m	Employee Turnover Rates by Flux, Separation and Replacement Method, Equivalent Employee Turnover	Cal of replaced employees

PYQ Jan 2025 – MCQ Q1

1. The data pertaining to the worker C in a factory depicts that he is paid at a rate of ₹ 100 per hour and a week comprises 48 hours for a 6 days' work. The allowed absence time is 15 minutes per day for maintenance etc. The job card of C indicates, his chargeable time is scattered for 2 different jobs J1 – 21 hours and J2 – 24 hours. Any unaccounted time is attributable for power failure.

Calculate cost of normal idle time and abnormal idle time.

- | | |
|---------------------|---------------------|
| (A) ₹ 100 and ₹ 150 | (B) ₹ 150 and ₹ 150 |
| (C) ₹ 150 and ₹ 100 | (D) ₹ 100 and ₹ 100 |

PYQ Jan 2025 – MCQ Q1

$$\text{Eff hours (week)} = 48 \text{ hrs} - \left(\frac{15 \text{ min} \times 6 \text{ d}}{60} \right) = 46.5 \text{ hours}$$

$$\text{Wages (week)} = 48 \times 100 = 4800$$

$$\text{Normal idle time} = \text{wages for 1.5 hrs} = 100 \times 1.5 = 150$$

$$\text{abn idle time} = 46.5 - (21 + 24) = 1.5 \text{ hrs}$$

$$\begin{aligned} \text{cost of abn idle time} &= \text{wage rate for costing purpose} \times \text{abn hours} \\ &= \frac{4800}{46.5} \times 1.5 = 154.84 \end{aligned}$$

$$\text{wage rate costing purpose} = \frac{4800}{46.5}$$

as 154.84 not in option means they have used wage rate of 100 for abn time also. so cost of abn idle time to be taken as $100 \times 1.5 = 150$ only

option (B) 150, 150

PYQ Jan 2025 – Q2b

(b) A skilled worker has assigned a work. The relevant data is given as follows :

5

Time rate per hour ₹ 25 TR

Time allowed ASH 9 hours TS = 9

Time taken AH 6 hours

The worker has given an option to choose either Halsey (50% plan) or Rowan plan.

You are required to calculate earnings under both plans and which plan is more beneficial for a worker.

PYQ Jan 2025 – Q2b

Earnings under Halsey (50%) plan :

$$\begin{aligned} & (\text{Time rate} \times \text{AH}) + (\text{Time saved} \times 50\% \times \text{TR}) \\ = & 25 \times 6 + (9 - 6) \times 50\% \times 25 = 187.5 \end{aligned}$$

Earnings under Rowan plan

$$\begin{aligned} = & \text{Time rate} \times \text{AH} + \frac{\text{Time saved}}{\text{SH}} \times \text{AH} \times \text{TR} \\ = & 25 \times 6 + \frac{3}{9} \times 6 \times 25 = 200 \end{aligned}$$

PYQ Sep 2024 – MCQ 13

13. In a mutual project, both Raj and Bhuvan are contributing their efforts, using identical materials. Raj receives a bonus based on the Rowan plan, while the Halsey plan determines Bhuvan's bonus. The standard time allocated for the project is 150 hours. Raj completes the project in 90 hours, while Bhuvan finishes it in 120 hours. The normal hourly wage rate for Raj is ₹ 30. The total earnings for both workers are equal.

Calculate the normal hourly wage rate to be paid to Bhuvan.

- (A) ₹ 26.50
- (B) ₹ 24.00
- (C) ₹ 22.50
- (D) ₹ 28.00

$$3780 = 120 \times R + 30 \times R \times \frac{1}{2}$$

$$3780 = 135R$$

$$R = 28/\text{hr}$$

(d)

PYQ Sep 2024 – MCQ 14

14. On 01-04-2023 number of workers employed in a factory was 150. During the year 30 workers resigned and 5 workers were discharged. Due to resignation and discharge, 15 workers were replaced. For the year 2023-24, labour turnover rate by separation method will be :

(A) 21.43%



(B) 18%

(C) 25%

(D) 30%

Op 150
resign 30
dish 5
replace 15
cl. 130

$$\frac{\text{Sep}}{\text{avg}} \times LW = \frac{35}{140} \times LW = 25\%$$

(C) 25%

PYQ Sep 2024 – Q2b

(b) In a factory there are 50 workers, working 8 hours per day including 30 minutes for lunch break, worked for 160 days during a period of six months ended on 31st December, 2023. During this period total employee's cost was recorded ₹ 3,90,000. The management of the factory decided the overtime premium rates for the month of January 2024 as under :

Sundays and holidays 180% of basic wages rate

Before and after normal working hours 160% of basic wages rate

During the last six months (ended on 31st December, 2023), the following hours were worked:

Normal time	56,250
Sundays and holidays	750
Before and after normal working hours	<u>3,000</u>
Total hours	60,000

PYQ Sep 2024 – Q2b

During the month of January 2024, the factory worked on a job BX in the following manner.

<i>Normal working</i>	<i>2,400 men hours</i>
<i>Overtime on Sundays and holidays</i>	<i>200 men hours</i>
<i>Overtime before and after normal working</i>	<i>400 men hours</i>
<i>Total hours</i>	<i>3,000</i>

You are required to calculate the labour cost chargeable to job BX and overheads in each of the following situations:

- (i) Where overtime is worked regularly in whole year as a policy on account of shortage of workers.*
- (ii) Where overtime is worked irregularly to meet the requirement of production.*
- (iii) Where overtime is worked at the request of the customer to complete the job in time.*
- (iv) Where overtime is worked on account of flood in the area. (6 Marks)*

PYQ Sep 2024 – Q2b

(b) Workings

Calculation of Basic Wage Rate

Effective Working Hours for six months ended 31st December, 2023

= 50 workers x (8-0.5) hours per day x 160 days = 60,000 hours

$$\text{Basic Wage Rate} = \frac{\text{₹ 3,90,000}}{60,000}$$

= ₹ 6.50 per hour

Basic wage rate : ₹ 6.50 per hour

Overtime wage rate for Sundays and holidays : ₹ 6.50 × 180%
= ₹ 11.70 per hour

Overtime wage rate before and after working hours : ₹ 6.50 × 160%
= ₹ 10.40 per hour

PYQ Sep 2024 – Q2b

Computation of average inflated wage rate (including overtime premium):

Particulars	(₹)
Annual wages for the normal time (56,250 hrs × ₹ 6.50)	3,65,625
Wages for overtime on Sundays and holidays (750 hrs × ₹ 11.70)	8,775
Wages for overtime before and after working hours (3,000 hrs × ₹ 10.40)	31,200
Total wages for 60,000 hrs	4,05,600

$$\text{Average inflated wage rate} = \frac{\text{₹ 4,05,600}}{60,000 \text{ hours}} = \text{₹ 6.76 per hour}$$

PYQ Sep 2024 – Q2b

- (a) ***Where overtime is worked regularly as a policy due to shortage of workers:***

The overtime premium is treated as a part of employee cost and job is charged at an inflated wage rate. Hence, employee cost chargeable to job BX

$$= \text{Total hours} \times \text{Inflated wage rate} = 3,000 \text{ hrs.} \times ₹ 6.76 = ₹ 20,280$$

- (b) ***Where overtime is worked irregularly to meet the requirements of production:***

Basic wage rate is charged to the job and overtime premium is charged to factory overheads as under:

Employee cost chargeable to Job BX: 3,000 hours @ ₹ 6.50 per hour
= ₹ 19,500

Factory overhead: $\{200 \text{ hrs.} \times ₹ (11.70 - 6.50)\} + \{400 \text{ hrs} \times ₹ (10.40 - 6.50)\} = \{₹ 1,040 + ₹ 1,560\} = ₹ 2,600$

PYQ Sep 2024 – Q2b

(c) *Where overtime is worked at the request of the customer to complete the job in time.*

Basic wage rate is charged to the job and overtime premium is charged to job as under:

Employee cost chargeable to Job BX: 3,000 hours @ ₹ 6.50 per hour
= ₹ 19,500

Overtime premium: $\{200 \text{ hrs} \times ₹ (11.70 - 6.50)\} + \{400 \text{ hrs} \times ₹ (10.40 - 6.50)\} = \{₹ 1,040 + ₹ 1,560\} = ₹ 2,600$

Total = ₹ 19,500 + ₹ 2,600 = ₹ 22,100

PYQ Sep 2024 – Q2b

(d) *Where overtime is worked on account of flood in the area*

Basic wage rate is charged to the job and overtime premium is charged to costing P & L Account as under:

Employee cost chargeable to Job BX: 3,000 hours @ ₹ 6.50 per hour
= ₹ 19,500

Costing P&L A/c : {200 hrs × ₹ (11.70 – 6.50)} + {400hrs × ₹ (10.40 – 6.50)} = {₹ 1,040 + ₹ 1,560} = ₹ 2,600

Total = ₹ 19,500 + ₹ 2,600 = ₹ 22,100

PYQ May 2024 – MCQ 4

Q4. A worker is allowed 8 hrs. to complete the job on a wage rate of Rs. 60 per hour per hour. Under the Rowan Plan, he gets an effective hourly wage of Rs. 75 per hour. For the Same saving in time, how much he will get under the Halsey Plan?

- (A) Rs.420
- (B) Rs.480
- (C) Rs.460
- (D) Rs.430

PYQ May 2024 – Q5a

- (a) *Super Ltd, a manufacturing company is facing the problem of high labour turnover in the factory. Before analysing the causes and taking remedial steps, the management of the company wants to ascertain the profit lost for the year 2022-23 on account of labour turnover. For this purpose, it has given you the following information:*
- (i) *Sales for the last year 2022-23 was ₹2,16,80,000 and P/V ratio was 15%.*
 - (ii) *The total number of actual hours worked by the direct labour force was 5,00,000 hours. The actual direct labour hours included 60,000 hours attributable to training new recruits, out of which 40% of the hours were unproductive.*
 - (iii) *Due to delays by the Personnel Department in filling vacancies on account of labour turnover, 95,000 potential productive hours (excluding unproductive training hours) were lost.*
 - (iv) *1,500 units of the output produced during training period were defective. Cost of rectification of defective units was ₹40 per unit.*

PYQ May 2024 – Q5a

(v) *Settlement cost of the workers leaving the organization was ₹ 2,37,880.*

(vi) *Recruitment and Selection cost was ₹ 1,40,000.*

(vii) *Cost of Training and Induction was ₹ 1,61,950.*

Assuming that the potential production lost as a consequence of labour turnover could have been sold at prevailing prices, find the profit lost for the year 2022-23 on account of labour turnover.

PYQ May 2024 – Q5a

(a) Workings:

(i) Computation of productive hours

Actual hours worked (given)	5,00,000
Less: Unproductive training hours	<u>24,000</u>
Actual productive hours	<u>4,76,000</u>

(ii) Productive hours lost:

Loss of potential productive hours + Unproductive training hours
= 95,000 + 24,000 = 1,19,000 hours

(iii) Loss of contribution due to unproductive hours :

$$\begin{aligned} &= \frac{\text{Sales value}}{\text{Actual productive hours}} \times \text{Total unproductive hours} \\ &= \frac{\text{₹ } 2,16,80,000}{4,76,000 \text{ hrs}} \times 1,19,000 \text{ hours} = \text{₹ } 54,20,000 \end{aligned}$$

Contribution lost for 1,19,000 hours = ₹ 54,20,000 x 15% = ₹ 8,13,000

PYQ May 2024 – Q5a

Computation of profit forgone on account of employee turnover

	(₹)
Contribution foregone (as calculated above)	8,13,000
Settlement cost due to leaving	2,37,880
Recruitment and Selection cost	1,40,000
Training and Induction costs	1,61,950
Cost of Rectification (1500 units x ₹40)	60,000
Profit foregone	14,12,830

PYQ Nov 2023 – Q1b

- (b) *A worker took 60 hours to complete a job in a factory. The normal rate of wages is ₹ 80 per hour. The worker is entitled to receive bonus according to the Halsey Premium Plan. Factory overhead is recovered on the job at ₹ 60 per man hour actually worked. The factory cost of the job is ₹ 37,280 and material cost of the job is ₹ 28,400.*

Required:

- (i) *Calculate the standard time for completing the job and effective hourly rate under the Halsey Premium plan.*
 - (ii) *Calculate the effective rate of earnings per hour if wages would have been paid under the Rowan Plan.*
- (5 Marks)**

PYQ Nov 2023 – Q1b

(b) (i) Calculation of standard time and effective hourly rate:

$$\text{Standard time} = \text{Actual hours worked} + \text{time saved} = 60 + 12 = 72 \text{ hours}$$

$$\begin{aligned} \text{Effective hourly rate under Halsey premium plan} &= \frac{\text{Total labour cost}}{\text{Actual hour worked}} = \frac{5,280}{60} \\ &= ₹ 88 \end{aligned}$$

(ii) Calculation of effective rate earnings under Rowan plan:

$$(\text{Rate} \times \text{Actual hours worked}) + \text{Rate} \times \frac{\text{Time Saved}}{\text{Std. Time}} \times \text{Time taken}$$

$$₹ 80 \times 60 \text{ hours} + ₹ 80 \times \frac{12}{72} \times 60$$

$$₹ 4,800 + 800 = ₹ 5,600$$

PYQ Nov 2023 – Q1b

Effective rate per hour = $5,600 \div 60 \text{ hour} = ₹ 93.33$

Working Note:

- (1) Calculation of labour cost = Factory cost – Material cost – Factory Overhead
= $37,280 - 28,400 - (₹ 60 \times 60 \text{ hours})$
= $37,280 - 28,400 - 3,600 = ₹ 5,280$

- (2) Calculation of bonus and time saved

Total labour cost = Normal Rate $\times$ Actual hours worked + $\frac{1}{2}$ time saved $\times$ normal rate

$$₹ 5,280 = (₹ 80 \times 60 \text{ hours}) + \frac{1}{2} (\text{time saved} \times ₹ 80)$$

$$40 \times \text{time saved} = ₹ 5,280 - ₹ 4,800$$

$$\text{Time saved} = (5,280 - 4,800) \div 40$$

$$\text{Time saved} = 12 \text{ hours}$$

PYQ May 2023 – Q1b

- (b) SMC Company Limited is producing a particular design of toys under the following existing incentive system:

Normal working hours in the week	48 hours
Late shift hours in the week	12 hours
Rate of payment	Normal working: ₹ 150 per hour Late shift: ₹ 300 per hour

Average output per operator for 60 hours per week (including late shift hours): 80 toys.

The company's management has now decided to implement a system of labour cost payment with either the Rowan Premium Plan or the Halsey Premium Plan in order to increase output, eliminate late shift overtime, and reduce the labour cost.

The following information is obtained:

The standard time allotted for ten toys is seven and half hours.

Time rate: ₹ 150 per hour (as usual).

Assuming that the operator works for 48-hours in a week and produces 100 toys, you are required to calculate the weekly earnings for one operator under-

PYQ May 2023 – Q1b

- (i) *The existing Time Rate,*
- (ii) *Rowan Premium Plan and,*
- (iii) *Halsey Premium Plan (50%).*

(5 Marks)

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PYQ May 2023 – Q1b

(b) Working Notes:

(1) Effective rate per hour:

$$\text{Incentive for 60 hours} = (\text{₹ } 150 \times 48 \text{ hours} + \text{₹ } 300 \times 12 \text{ hours})$$

$$= 7,200 + 3,600 = \text{₹ } 10,800$$

$$= \text{₹ } 10,800 \div 60 \text{ hours} = \text{₹ } 180 \text{ per hour}$$

(2) Time taken/ Allowed to produce 100 toys:

$$= (60 \text{ hours} \div 80 \text{ toys}) \times 100 \text{ toys} = 75 \text{ hours}$$

(3) Time saved = Time Allowed – Time Taken

$$= 75 \text{ hours} - 48 \text{ hours} = 27 \text{ hours}$$

(i) Calculation of weekly earnings for one operator under the existing time rate:

$$= (48 \text{ hours} \times \text{₹ } 150) + (12 \text{ hours} \times \text{₹ } 300) = \text{₹ } 10,800$$

PYQ May 2023 – Q1b

Alternative solution

= Effective rate per hour (WN-1) × Time required for 100 toys (WN-2)

= ₹ 180 × 75 hours = ₹ 13,500

(ii) Calculation of weekly earnings for one operator under Rowan Premium plan:

(Time taken × Rate per hour) + (Time Saved/ Time Allowed × Time taken × Rate per hour)

= (48 hours × ₹ 150) + [(27 ÷ 75) × 48 × ₹ 150]

= 7,200 + 2,592 = ₹ 9,792

(iii) Calculation of weekly earnings for one operator under Halsey Premium plan:

(Time taken × Rate per hour) + (50% of Time Saved × Rate per hour)

= (48 hours × ₹ 150) + (50% of 27 hours × ₹ 150)

= ₹ 7,200 + ₹ 2,025 = ₹ 9,225

PYQ Nov 2022 – Q2b

- (b) A skilled worker, in PK Ltd., is paid a guaranteed wage rate of ₹ 15.00 per hour in a 48-hour week. The standard time to produce a unit is 18 minutes. During a week, a skilled worker -Mr. 'A' has produced 200 units of the product. The Company has taken a drive for cost reduction and wants to reduce its labour cost.

You are required to:

- (i) Calculate wages of Mr. 'A' under each of the following methods:
- (A) Time rate,
 - (B) Piece -rate with a guaranteed weekly wage,
 - (C) Halsey Premium Plan
 - (D) Rowan Premium Plan
- (ii) Suggest which bonus plan i.e. Halsey Premium Plan or Rowan Premium Plan, the company should follow. **(6 Marks)**

PYQ Nov 2022 – Q2b

(b) (i) **Calculation of wages of Mr. 'A' under different wage schemes:**

A. Time rate

$$\begin{aligned}\text{Wages} &= \text{Time Worked} \times \text{Rate for the time} \\ &= 48 \text{ hours} \times ₹ 15 \\ &= ₹ 720\end{aligned}$$

B. Piece rate with a guaranteed weekly wage

$$\begin{aligned}\text{Wages} &= \text{Number of units produced} \times \text{Rate per unit} \\ &= 200 \text{ units} \times ₹ 4.50^* \\ &= ₹ 900\end{aligned}$$

$$^*(₹ 15 / 60 \text{ minutes}) \times 18 \text{ minutes} = ₹ 4.50$$

PYQ Nov 2022 – Q2b

C. Halsey Premium Plan

Wages = Time taken × Time rate + 50% of time saved × Time rate

Wages = Time taken × Time rate + 50% (Standard time – Actual time) × Time rate

$$\begin{aligned} &= (48 \text{ hours} \times ₹ 15) + 50\% \text{ of } (60 \text{ hours}^{\#} - 48 \text{ hours}) \times ₹ 15 \\ &= ₹ 720 + ₹ 90 \\ &= ₹ 810 \end{aligned}$$

[#](200 units × 18 minutes) / 60 minutes = 60 hours

D. Rowan Premium Plan

Wages = Time taken × Rate per hour + $\frac{\text{Time Saved}}{\text{Time Allowed}} \times \text{Time taken} \times \text{Rate per hour}$

$$\begin{aligned} &= (48 \text{ hours} \times ₹ 15) + \left(\frac{60 - 48 \text{ hours}}{60 \text{ hours}} \right) \times 48 \text{ hours} \times ₹ 15 \\ &= ₹ 720 + ₹ 144 \\ &= ₹ 864 \end{aligned}$$

- (ii) The company may follow Halsey Premium Plan over Rowan Premium Bonus Plan as the total wages paid is lower than that of Rowan Premium Bonus Plan.

PYQ May 2022 – Q1b

- (b) PQR Limited has replaced 72 workers during the quarter ended 31st March 2022. The labour rates for the quarter are as follows:

Flux method	16%
Replacement method	8%
Separation method	5%

You are required to ascertain:

- (i) Average number of workers on roll (for the quarter),
- (ii) Number of workers left and discharged during the quarter,
- (iii) Number of workers recruited and joined during the quarter,
- (iv) Equivalent employee turnover rates for the year.

PYQ May 2022 – Q1b

(b) **Working Note:**

(i) **Average number of workers on roll (for the quarter):**

Employee Turnover rate using Replacement method

$$= \frac{\text{No. of replacements}}{\text{Average number of workers on roll}} \times 100$$

$$\text{Or, } \frac{8}{100} = \frac{72}{\text{Average number of workers on roll}}$$

$$\text{Or, Average number of workers on roll} = \frac{72 \times 100}{8} = \mathbf{900}$$

PYQ May 2022 – Q1b

(ii) Number of workers left and discharged:

Employee turnover rate (Separation method)

$$= \frac{\text{No. of Separations(S)}}{\text{Average number of workers on roll}} \times 100 = \frac{5}{100} = \frac{S}{900} \text{ Or, } S = 45$$

Hence, number of workers left and discharged comes to **45**

(iii) Number of workers recruited and joined:

Employee turnover rate (Flux method)

$$= \frac{\text{No. of Separations*(S)+No. of Accessions(A)}}{\text{Average number of workers on roll}}$$

$$\text{Or, } \frac{16}{100} = \frac{45 + A}{900} \quad \text{Or, } A = \left[\frac{14400}{100} - 45 \right] = 99$$

No. of workers recruited and joined **99**

PYQ May 2022 – Q1b

(iv) Calculation of Equivalent employee turnover rates:

$$= \frac{\text{Employee Turnover rate for the quarter(s)}}{\text{Number of quarter(s)}} \times 4 \text{ quarters}$$

$$\text{Using Flux method} = \frac{16\%}{1} \times 4 = 64\%$$

$$\text{Using Replacement method} = \frac{8\%}{1} \times 4 = 32\%$$

$$\text{Using Separation method} = \frac{5\%}{1} \times 4 = 20\%$$

PYQ Dec 2021 – Q1c

- (c) *A skilled worker is paid a guaranteed wage rate of ₹ 150 per hour. The standard time allowed for a job is 10 hours. He took 8 hours to complete the job. He has been paid the wages under Rowan Incentive Plan.*

You are required to:

- (i) Calculate an effective hourly rate of earnings under Rowan Incentive Plan.*
- (ii) Calculate the time in which he should complete the job, if the worker is placed under Halsey Incentive Scheme (50%) and he wants to maintain the same effective hourly rate of earnings.*

PYQ Dec 2021 – Q1c

(c) (i) **Calculation of Effective hourly rate of earnings under Rowan Incentive Plan:**

Standard time allowed = 10 hours

Time taken = 8 hours; Time saved = 2 hours

	Particulars	Amount (₹)
A	Basic guaranteed wages (₹150×8 hours)	1,200
B	Add: Bonus for time saved ($\frac{2}{10} \times 8 \times ₹ 150$)	240
C	Total earnings (A+B)	1,440
D	Hours worked	8 hours
E	Effective hourly rate (C÷D)	180

PYQ Dec 2021 – Q1c

(ii) Let the time taken to complete the job is “T” and the time saved is 10-T

Effective hourly rate under the Halsey Incentive scheme

$$= \frac{(\text{Rate} \times \text{Hours Worked}) + (\text{Rate} \times 50\% \text{ of Time Saved})}{\text{Hours Worked}} = ₹ 180$$

$$\frac{(\text{₹}150 \times T) + \text{₹}150 \times 50\% (10 - T)}{T} = ₹ 180$$

$$150T + 750 - 75T = 180T$$

$$180T - 75T = 750$$

$$T = \frac{750}{105} = 7.14 \text{ hours}$$

PYQ Jul 2021 – Q2c

- (c) *Following information is given of a newly setup organization for the year ended on 31st March, 2021.*

<i>Number of workers replaced during the period</i>	<i>50</i>
<i>Number of workers left and discharged during the period</i>	<i>25</i>
<i>Average number of workers on the roll during the period</i>	<i>500</i>

You are required to:

- (i) *Compute the Employee Turnover Rates using Separation Method and Flux Method.*
- (ii) *Equivalent Employee Turnover Rates for (i) above, given that the organization was setup on 31st January, 2021.* **(5 Marks)**

PYQ Jul 2021 – Q2c

(c) (i) Employee Turnover rate

Using Separation method:

$$= \frac{\text{Number of employees Separated during the period}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{25}{500} \times 100 = 5\%$$

Using Flux method:

$$= \frac{\text{Number of employees Separated} + \text{Number of employees Replaced during the period}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{50 + 25}{500} \times 100 = 15\%$$

PYQ Jul 2021 – Q2c

(ii) Equivalent Employee Turnover rate:

$$= \frac{\text{Employee Turnover rate for the period}}{\text{Number of days in the period}} \times 365$$

Using Separation method $= \frac{5}{60} \times 365 = 30.42\%$

Or, $= \frac{5}{60} \times 360 = 30\%$

Or, $= \frac{5}{2} \times 12 = 30\%$

Using Flux method $= \frac{15}{60} \times 365 = 91.25\%$

Or, $= \frac{15}{60} \times 360 = 90\%$

Or, $= \frac{15}{2} \times 12 = 90\%$

PYQ Jan 2021 – Q2a

- (a) Z Ltd is working by employing 50 skilled workers. It is considering the introduction of an incentive scheme - either Halsey Scheme (with 50% Bonus) or Rowan Scheme - of wage payment for increasing the labour productivity to adjust with the increasing demand for its products by 40%. The company feels that if the proposed incentive scheme could bring about an average 20% increase over the present earnings of the workers, it could act as sufficient incentive for them to produce more and the company has accordingly given assurance to the workers.

Because of this assurance, an increase in productivity has been observed as revealed by the figures for the month of April, 2020:

Hourly rate of wages (guaranteed)	₹ 50
Average time for producing one unit by one worker at the previous performance (this may be taken as time allowed)	1.975 hours
Number of working days in a month	24
Number of working hours per day of each worker	8
Actual production during the month	6,120 units

PYQ Jan 2021 – Q2a

Required:

- (i) Calculate the effective increase in earnings of workers in percentage terms under Halsey and Rowan scheme.*
- (ii) Calculate the savings to Z Ltd in terms of direct labour cost per unit under both the schemes.*
- (iii) Advise Z Ltd about the selection of the scheme that would fulfil its assurance of incentivising workers and also to adjust with the increase in demand. **(10 Marks)***

PYQ Jan 2021 – Q2a

(a) Working Notes:

1. Total time wages of 50 workers per month:

$$= \text{No. of working days in the month} \times \text{No. of working hours per day of each worker} \\ \times \text{Hourly rate of wages} \times \text{No. of workers}$$

$$= 24 \text{ days} \times 8 \text{ hrs.} \times ₹ 50 \times 50 \text{ workers} = ₹ 4,80,000$$

2. Time saved per month:

Time allowed per unit to a worker	1.975 hours
-----------------------------------	-------------

No. of units produced during the month by 50 workers	6,120 units
--	-------------

Total time allowed to produce 6,120 units (6,120 × 1.975 hrs)	12,087 hours
---	--------------

Actual time taken to produce 6,120 units (24 days × 8 hrs. × 50 workers)	9,600 hours
--	-------------

Time saved (12,087 hours – 9,600 hours)	2,487 hours
---	-------------

3. Bonus under Halsey scheme to be paid to 50 workers:

$$\text{Bonus} = (50\% \text{ of time saved}) \times \text{hourly rate of wages}$$

$$= 50/100 \times 2,487 \text{ hours} \times ₹ 50 = ₹ 62,175$$

Total wages to be paid to 50 workers are (₹ 4,80,000 + ₹ 62,175) ₹ 5,42,175, if Z Ltd. considers the introduction of Halsey Incentive Scheme to increase the worker productivity.

PYQ Jan 2021 – Q2a

4. Bonus under Rowan Scheme to be paid to 50 workers:

$$\begin{aligned}\text{Bonus} &= \frac{\text{Time taken}}{\text{Time allowed}} \times \text{Time saved} \times \text{hourly rate} \\ &= \frac{9,600 \text{ hours}}{12,087 \text{ hours}} \times 2,487 \text{ hours} \times ₹ 50 = ₹ 98,764\end{aligned}$$

Total wages to be paid to 50 workers are (₹ 4,80,000 + ₹ 98,764) ₹ 5,78,764, if Z Ltd. considers the introduction of Rowan Incentive Scheme to increase the worker productivity.

(i) (a) **Effective hourly rate of earnings under Halsey scheme:**

(Refer to Working Notes 1, 2 and 3)

$$\begin{aligned}&= \frac{\text{Total time wages of 50 workers} + \text{Total bonus under Halsey scheme}}{\text{Total hours worked}} \\ &= \frac{₹ 4,80,000 + ₹ 62,175}{9,600 \text{ hours}} = ₹ 56.48\end{aligned}$$

$$\text{Effective increase in earnings of worker (in \%)} = \frac{₹ 56.48 - ₹ 50}{₹ 50} \times 100 = 2.96\%$$

PYQ Jan 2021 – Q2a

(b) **Effective hourly rate of earnings under Rowan scheme:**

(Refer to Working Notes 1, 2 and 4)

$$= \frac{\text{Total time wages of 50 workers} + \text{Total bonus under Rowan scheme}}{\text{Total hours worked}}$$

$$= \frac{\text{₹ 4,80,000} + \text{₹ 96,875}}{9,600 \text{ hours}} = \text{₹ 60.29}$$

$$\text{Effective increase in earnings of worker (in \%)} = \frac{\text{₹ 60.29} - \text{₹ 50}}{\text{₹ 50}} \times 100 = \text{20.58\%}$$

(ii) (a) **Saving in terms of direct labour cost per unit under Halsey scheme:**

(Refer to Working Note 3)

Labour cost per unit (under time wage scheme)

$$= 1.975 \text{ hours} \times \text{₹ 50} = \text{₹ 98.75}$$

Labour cost per unit (under Halsey scheme)

$$= \frac{\text{Total wages paid under the scheme}}{\text{Total number of units produced}} = \frac{\text{₹ 5,42,175}}{6,120} = \text{₹ 88.60}$$

$$\text{Saving per unit} = \text{₹ 98.75} - \text{₹ 88.60} = \text{₹ 10.15}$$

PYQ Jan 2021 – Q2a

(b) Saving in terms of direct worker cost per unit under Rowan Scheme:

(Refer to Working Note 4)

Labour cost per unit under Rowan scheme = ₹ 5,78,764/6,120 units = ₹ 94.57

Saving per unit = ₹ 98.75 – ₹ 94.57 = ₹ 4.18

(iii) Calculation of Productivity:

Normal Production Hours worked/Unit per Hour (9,600/1.975)	4,861
Actual Production Units	6,120
Increase in labour productivity	1,259
% Productivity i.e. increase in production/Normal production	25.9%

Advice: Rowan plan fulfils the company's assurance of 20% increase over the present earnings of workers. This would increase productivity by 25.9% only. It will not adjust with the increase in demand by 40%.

PYQ Nov 2020 – Q4b

(b) Following are the particulars of two workers 'R' and 'S' for a month:

Particulars	R	S
(i) Basic Wages (₹)	15,000	30,000
(ii) Dearness Allowance	50%	50%
(iii) Contribution to EPF (on basic wages)	7%	7.5%
(iv) Contribution to ESI (on basic wages)	2%	2%
(v) Overtime (hours)	20	-

The normal working hours for the month are 200 hrs. Overtime is paid at double the total of normal wages and dearness allowance. Employer's contribution to State Insurance and Provident Fund are at equal rates with employees' contributions.

Both workers were employed on jobs A, B and C in the following proportions :

Jobs	A	B	C
R	75%	10%	15%
S	40%	20%	40%

Overtime was done on job 'A'.

You are required to :

- Calculate ordinary wage rate per hour of 'R' and 'S'.
- Allocate the worker's cost to each job 'A', 'B' and 'C'.

(6 Marks)

PYQ Nov 2020 – Q4b

(b) (i) **Calculation of Net Wages paid to Worker 'R' and 'S'**

Particulars	R (₹)	S (₹)
Basic Wages	15,000.00	30,000.00
Dearness Allowance (DA) (50% of Basic Wages)	7,500.00	15,000.00
Overtime Wages (Refer to Working Note 1)	4,500.00	----
Gross Wages earned	27,000.00	45,000.00
Less: Provident Fund (7% × ₹ 15,000); (7.5% × ₹ 30,000)	(1,050.00)	(2,250.00)
Less: ESI (2% × ₹ 15,000); (2% × ₹ 30,000)	(300.00)	(600.00)
Net Wages paid	25,650.00	42,150.00

Calculation of ordinary wage rate per hour of Worker 'R' and 'S'

	R (₹)	S (₹)
Gross Wages (Basic Wages + DA) (excluding overtime)	22,500.00	45,000.00
Employer's contribution to P.F. and E.S.I.	1,350.00	2,850.00
	23,850.00	47,850.00
Ordinary wages Labour Rate per hour (₹ 23,850 ÷ 200 hours); (₹ 47,850 ÷ 200 hours)	119.25	239.25

PYQ Nov 2020 – Q4b

(ii) Statement Showing Allocation of workers cost to each Job

	Total Wages	Jobs		
		A	B	C
Worker R				
Ordinary Wages (15:2:3)	23,850.00	17,887.50	2,385.00	3,577.50
Overtime	4500.00	4500.00	-	--
Worker S				
Ordinary Wages (2:1:2)	47,850.00	19,140.00	9,570.00	19,140.00
	76,200.00	41,527.50	11,955.00	22,717.50

Working Note:

Normal Wages are considered as basic wages.

$$\text{Over time} = \frac{2 \times (\text{Basic wage} + \text{D.A.}) \times 20 \text{ hours}}{200 \text{ hours}}$$

$$= 2 \times \frac{\text{₹}22,500}{200} \times 20 \text{ hours}$$

$$= \text{₹} 4,500$$

PYQ Nov 2019 – Q4a

- (a) *Zico Ltd. has its factory at two locations viz Nasik and Satara. Rowan plan is used at Nasik factory and Halsey plan at Satara factory.*

Standard time and basic rate of wages are same for a job which is similar and is carried out on similar machinery. Normal working hours is 8 hours per day in a 5 day week.

Job at Nasik factory is completed in 32 hours while at Satara factory it has taken 30 hours. Conversion costs at Nasik and Satara are ₹ 5,408 and ₹ 4,950 respectively. Overheads account for ₹ 25 per hour.

Required:

- (i) To find out the normal wage; and*
- (ii) To compare the respective conversion costs.*

(10 Marks)

PYQ Nov 2019 – Q4a

(a)

Particulars	Nasik	Satara
Hours worked	32 hr.	30 hr.
Conversion Costs	₹5,408	₹4,950
Less: Overheads	₹800 (₹25×32 hr.)	₹750 (₹25×30 hr.)
Labour Cost	₹4,608	₹4,200

(i) **Finding of Normal wage rate:**

Let Wage rate be ₹R per hour, this is same for both the Nasik and Satara factory.

Normal wage rate can be found out taking total cost of either factory.

Nasik: Rowan Plan

PYQ Nov 2019 – Q4a

Total Labour Cost = Wages for hours worked + Bonus as per Rowan plan

$$₹ 4,608 = \text{Hours worked} \times \text{Rate per hour} + \left(\frac{\text{Time saved}}{\text{Time allowed}} \times \text{Hours worked} \times \text{Rate per hour} \right)$$

$$\text{Or, } ₹ 4,608 = 32 \text{ hr.} \times R + \left(\frac{40 - 32}{40} \times 32 \times R \right)$$

$$\text{Or, } ₹ 4,608 = 32R + 6.4R$$

$$R = ₹ 120$$

$$\text{Normal wage} = 32 \text{ hrs} \times ₹ 120 = ₹ 3,840$$

PYQ Nov 2019 – Q4a

Satara: Halsey Plan

Total Labour Cost = Wages for hours worked + Bonus as per Halsey plan

$$₹ 4,200 = \text{Hours worked} \times \text{Rate per hour} + (50\% \times \text{Hours saved} \times \text{Rate per hour})$$

$$₹ 4,200 = 30 \text{ hr.} \times R + 50\% \times (40 \text{ hr.} - 30 \text{ hr.}) \times R$$

$$₹ 4,200 = 35 R$$

$$\text{Or } R = ₹ 120$$

$$\text{Normal Wage} = 30 \text{ hrs} \times ₹ 120 = ₹ 3,600$$

PYQ Nov 2019 – Q4a

(ii) Comparison of conversion costs:

Particulars	Nasik (₹)	Satara (₹)
Normal Wages (32 x 120)	3,840	
(30x120)		3,600
Bonus (6.4 x 120)	768	
(5 x 120)		600
Overhead	800	750
	5,408	4,950

PYQ May 2019 – Q1b

- (b) *M/s Zeba Private Limited allotted a standard time of 40 hours for a job and the rate per hour is ₹75. The actual time taken by a worker is 30 hours.*

You are required to calculate the total earnings under the following plans:

- (i) Halsey Premium Plan (Rate 50%)*
- (ii) Rowan Plan*
- (iii) Time Wage System*
- (iv) Piece Rate System*
- (v) Emerson Plan*

PYQ May 2019 – Q1b

(b) (i) **Halsey Premium plan:**

$$= (\text{Time taken} \times \text{Rate per hour}) + \left(\frac{1}{2} \times \text{Time saved} \times \text{Rate per hour}\right)$$

$$= (30 \text{ hours} \times \text{Rs. } 75) + \left(\frac{1}{2} \times 10 \text{ hours} \times \text{Rs. } 75\right)$$

$$= ₹ 2,250 + ₹ 375 = ₹ \mathbf{2,625}$$

(ii) **Rowan Premium plan:**

$$= (\text{Time taken} \times \text{Rate per hour}) + \left(\frac{\text{Time saved}}{\text{Time allowed}} \times \text{Time taken} \times \text{Rate per hour}\right)$$

$$= (30 \text{ hours} \times ₹ 75) + \left(\frac{10}{40} \times 30 \times ₹ 75\right)$$

$$= ₹ 2,250 + ₹ 562.5 = ₹ \mathbf{2,812.5 \text{ or } ₹ 2,813}$$

(iii) **Time wage system:**

$$= \text{Time taken} \times \text{Rate per hour}$$

$$= 30 \times ₹ 75 = ₹ \mathbf{2,250}$$

PYQ May 2019 – Q1b

(iv) Piece Rate System:

= Std. Time × Rate per hour

= 40 × ₹ 75 = ₹ **3,000**

(v) Emerson plan:

Efficiency level = $40/30 = 133.33\%$

Time taken × (120% + 33.33%) of Rate

= 30 hours × 153.33% of ₹ 75

= ₹ **3,450**

PYQ Nov 2018 – Q5b (i)

(b) (i) Following data have been extracted from the books of M/s. ABC Private Limited:

(i)	Salary (each employee, per month)	₹ 30,000
(ii)	Bonus	25% of salary
(iii)	Employer's contribution to PF, ESI etc.	15% of salary
(iv)	Total cost at employees' welfare activities	₹ 6,61,500 per annum
(v)	Total leave permitted during the year	30 days
(v)	No. of employees	175
(vii)	Normal idle time	70 hours per annum
(viii)	Abnormal idle time (due to failure of power supply)	50 hours
(ix)	Working days per annum	310 days of 8 hours

You are required to calculate:

1. Annual cost of each employee
2. Employee cost per hour
3. Cost of abnormal idle time, per employee

(5 Marks)

PYQ Nov 2018 – Q5b (i)

(b) (i) 1.

	Annual cost of each employee	₹.
1.	Salary (30,000×12)	3,60,000
2.	Bonus (25% of Salary)	90,000
3.	Employees Contribution to PF (15% of Salary)	54,000
4.	Employers welfare (661500/175)	3,780
	Total Annual Cost	5,07,780

2.

Effective Working hours (310 days × 8 hours)	2480 hours
Less: Leave days (30 days × 8 hours)	240 hours*
Available Working hours	2240 hours
Less: Normal Loss @	70 hours
	2170 hours

$$\text{Employee Cost per hour} = \frac{507780}{2170} = ₹. 234$$

*It is assumed 310 working days are without taking leave permitted into consideration

PYQ Nov 2018 – Q5b (i)

3. Cost of abnormal idle time per employee = ₹ 234 × 50 hours = ₹ 11700

Alternative solution for Part (2) and (3)

(2) Calculation of Employee cost per hour:

Working hours per annum	2,480 *
Less: Normal Idle time hours	70
Effective hours	2,410
Employee cost	5,07,780
Employee cost per hour	210.70

*It is assumed 310 working days are after adjusting leave permitted during the year.

(3) Cost of Abnormal idle time per employee:

Abnormal Idle time hours	50
Employee cost per hour	210.70
Cost of Abnormal idle time (210.70 × 50)	10,534.85

PYQ May 2018 – Q1b

- (b) A worker takes 15 hours to complete a piece of work for which time allowed is 20 hours. His wage rate is ₹5 per hour. Following additional information are also available:

Material cost of work ₹ 50

Factory overheads 100% of wages

Calculate the factory cost of work under the following methods of wage payments:

(i) Rowan Plan

(ii) Halsey Plan

PYQ May 2018 – Q1b

- (i) Rowan Plan : Normal time wage = 15 hours @ ₹ 5= 75
Bonus = Time saved /Time allowed × (Time taken × Time rate)
$$= \frac{5}{20} \times (15 \times 5) =$$
 18.75
93.75
- (ii) Halsey Plan: Normal time wage = 15 hours @ ₹ 5 = 75
Bonus = 50% of (Time saved x Time rate) = 50% of (5x5) = 12.5
87.5

Statement of Comparative Factory cost of work

	Rowan Plan	Halsey Plan
	₹	₹
Materials	50	50
Direct Wages	93.75	87.5
Prime Cost	143.75	137.5
Factory Overhead (100% of Direct wages)	93.75	87.5
Factory Cost	237.5	225

PYQ May 2018 – Q3a

- (a) The information regarding number of employees on roll in a shopping mall for the month of December 2017 are given below:

Number of employees as on 01-12-2017 900

Number of employees as on 31-12-2017 1100

During December, 2017, 40 employees resigned and 60 employees were discharged. 300 employees were recruited during the month. Out of these 300 employees, 225 employees were recruited for an expansion project of the mall and rest were recruited due to exit of employees.

Assuming 365 days in a year, calculate Employee Turnover Rate and Equivalent Annual' Employee Turnover Rate by applying the following:

- (i) Replacement Method
- (ii) Separation Method
- (iii) Flux Method

(10 Marks)

PYQ May 2018 – Q3a

(a) Labour turnover rate:

It comprises of computation of labour turnover by using following methods:

(i) Replacement Method:

$$\begin{aligned}\text{Labour turnover rate} &= \frac{\text{No. of workers replaced}}{\text{Average number of workers}} \times 100 \\ &= \frac{75}{1,000} \times 100 = 7.5\%\end{aligned}$$

$$\text{Equivalent Annual Turnover Rate} = \frac{7.5 \times 365}{31} = 88.31\%$$

(ii) Separation Method:

$$\begin{aligned}\text{Labour turnover rate} &= \frac{\text{No. of workers left} + \text{No. of workers discharged}}{\text{Average number of workers}} \times 100 \\ &= \frac{(40 + 60)}{(900 + 1100) \div 2} \times 100 = \frac{100}{1,000} \times 100 = 10\%\end{aligned}$$

$$\text{Equivalent Annual Turnover Rate} = \frac{10 \times 365}{31} = 117.74\%$$

PYQ May 2018 – Q3a

(iii) *Flux Method:*

$$\begin{aligned}\text{Labour turnover rate} &= \frac{\text{No. of separations} + \text{No. of accessions}}{\text{Average number of workers}} \times 100 \\ &= \frac{(100 + 300)}{(900 + 1,100) \div 2} \times 100 = \frac{400}{1,000} \times 100 = 40\%\end{aligned}$$

$$\text{Equivalent Annual Turnover Rate} = \frac{40 \times 365}{31} = 470.97\%$$

OR

PYQ May 2018 – Q3a

(iii) Flux Method:

$$\text{Labour turnover rate} = \frac{\text{No. of separation} + \text{No. of replaced}}{\text{Average number of workers}} \times 100$$

$$\frac{100 + 75}{1000} \times 100 = 17.5\%$$

$$\text{Equivalent Annual Turnover Rate} = \frac{17.5 \times 365}{31} = 206.05\%$$

Revision Test Papers (RTPs)

May 2018 to Jan 2025

RTP Analysis

Exam	Q No.	Requirement	Special Points
RTP - Jan 2025	3	MCQ - Labour cost per piece	Amended Incentive Scheme based on Piece Rate (Given Solution Presentation confusing)
RTP - Jan 2025	9	Loss due to Incorrect Rate Selection	Special Requirement
RTP - Sep 2024	8	number of replacements, number of left and discharge	Basic Easy
RTP - May 2024	2	Case Scenario MCQ - (i) Output Lost, (ii) Contribution Lost, (iii) Cost of repairing (iv) Profit Lost (v) Output lost due to inexperience	unit based calculation of contribution lost, cost of rectification of defective units
RTP - Nov 2023	2	Effective hourly rate as per Rowan, Actual hours for Halsey with same hourly rate	Basic Easy
RTP - May 2023	2	Labour Turnover Rate and Labour Flux Rate	Que Silent about method so solved by all
RTP - Nov 2022	2	Labour Turnover Rate using replacement and separation method and flux also	Profile wise Counts are given. More of a LR Question to obtain multiple missing figures in the employee table then calculation of turnover, transfer in/ out are taken as accessions/separation
RTP - May 2022	2	Wages Payable to Employees (OT with weekly limit)	ICAI Solution is done ignoring weekly limit (as done in Study Mat also)
RTP - Nov 2021	2	Treatment of OT Premium in various situations	Similar to a Study Mat Problem (Illustration 5 - Pg 3.21)

RTP Analysis

Exam	Q No.	Requirement	Special Points
RTP - May 2021	2	Incorect Rate Selection	Similar to RTP Jan 2025 Q9
RTP - Nov 2020	2	Earnings per day (General), Effective Rate for Z (Specific)	Incorrect Question – Skip
RTP - May 2020	2	Employee Turnover Rates	Regular Problem
RTP - Nov 2019	2	Suggest Bonus Scheme	Basic Easy
RTP - May 2019	2	Wages using different method	Basic Easy
RTP - Nov 2018	2	Hourly Rate and Material Cost	Similar to ICAI Study Mat Problem
RTP - May 2018	2	Profit Lost	Similar to RTP May 2024

3. Phalsa Ltd. pays its workers on time-basis because their services cannot be tangibly measured. The company's normal working week includes 5 days of 8 hours each. Sometimes, the workers need to work late at night which was 3 nights of 3 hours each for the current week. The average output produced per worker for the week is 120 units.

Information regarding incentive rate is as follows:

Rate of Payment

Day shift: ₹ 320 per hour

Night shift: ₹ 450 per hour

However, this time-basis payment made workers lazy, making their expected output lower. As workers started doing more of the night shifts

RTP Jan 2025 – Q3

for higher earnings with minimal impact on the outputs, the company decided to shift on to a system of payments on output basis. Information regarding amended incentive rate is as follows:

Time-rate (as usual) : ₹ 320 per hour

Basic time allowed for 15 units : 5 hours

Piece-work rate : Add 15% to basic piece-rate

In the amended incentive system, the normal weekly working hours remained the same while production increased to 135 units.

RTP Jan 2025 – Q3

CALCULATE the labour cost per unit as per the existing incentive system, along with the amended incentive system.

- (a) ₹ 140.42 and ₹ 122.67 respectively
- (b) ₹ 124.81 and ₹ 138.00 respectively
- (c) ₹ 124.81 and ₹ 122.67 respectively
- (d) ₹ 140.42 and ₹ 138.00 respectively

RTP Jan 2025 – Q3

3. (a) Calculation of existing labour cost per unit (time basis)

Normal weekly hours = 5 days x 8 hours = 40 hours

Night shift hours = 3 nights x 3 hours = 9 hours

Average production per week = 120 units

Weekly wages:

Normal shift	(40 hours × ₹ 320)	₹ 12,800
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Night shift	(9 hours × ₹ 450)	₹ 4,050
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Total wages		₹ 16,850
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Labour cost per unit = $\left(\frac{₹ 16,850}{120 \text{ units}} \right)$

= ₹ 140.42

RTP Jan 2025 – Q3

Calculation of amended labour cost per unit (piece basis)

15 units are produced in 5 hours

Therefore, to produce 135 units, hours required is
 $\left(\frac{5 \text{ hours}}{15 \text{ units}}\right) \times 135 \text{ units} = 45 \text{ hours}.$

Labour cost of producing 135 units:

At basic time rate $(45 \text{ hours} \times ₹ 320) = ₹ 14,400$

Add: Bonus @ 15% on basic Piece rate

$$\left[\left(\frac{₹ 14,400}{135 \text{ units}}\right) \times 15\%\right] \times 135 \text{ units} = ₹ 2,160$$

Earning for the week ₹ 16,560

$$\text{Labour cost per unit} = \left(\frac{₹ 16,560}{135 \text{ units}}\right)$$

$$= ₹ 122.67$$

RTP Jan 2025 – Q9

9. AeBee Publishers works for various educational institutes for editing, binding, printing of various books and magazines on job work basis. Currently, the company has employed 30 workers and pays them on hour rate basis for each job assigned. To complete one of the process of binding, the average time allowed to an employee is 8 hours for a 10 pages magazine.

In the month of March, two employees 'Cee' and 'Dee' were given 21 and 30 units of magazines respectively for binding work. The following are the details of the work assigned:

Particulars	'Cee'	'Dee'
Work assigned	21 units	30 units
Time taken	78 hours	114 hours

The existing rate of wages is ₹ 60 per hour along with bonus as per Halsey System.

RTP Jan 2025 – Q9

However, a new wage agreement has been signed between the employees and the company where, employees will be paid ₹ 65 per hour with effect from the April month. But, inadvertently, for the month of March, the accountant of the company paid the wages to these employees considering rate of wages as ₹ 65 per hour.

You are required to CALCULATE the following:

- (i) Amount of loss that the company has incurred due to incorrect rate selection in the month of March.
- (ii) Loss incurred by the company due to incorrect rate selection if it had followed Rowan scheme of bonus payment.
- (iii) Amount that could have been saved if Rowan Scheme of bonus payment were followed.

RTP Jan 2025 – Q9

9.

Particulars	'Cee'	'Dee'
No. of binding work assigned (units)	21	30
Hour allowed per magazine (Hours)	8	8
Total hours allowed (Hours)	168	240
Hours Taken (Hours)	78	114
Hours Saved (Hours)	90	126

RTP Jan 2025 – Q9

(i) Calculation of loss incurred due to incorrect rate selection

(While calculating loss only excess rate per hour has been taken)

Particulars	'Cee' (₹)	'Dee' (₹)	Total (₹)
Basic Wages	390 (78 Hrs. × ₹ 5)	570 (114 Hrs. × ₹ 5)	960
Bonus (as per Halsey Scheme) (50% of Time Saved × Excess Rate)	225 (50% of 90 Hrs. × ₹ 5)	315 (50% of 126 Hrs. × ₹ 5)	540
Excess Wages Paid	615	885	1,500

RTP Jan 2025 – Q9

(ii) Amount of loss if Rowan scheme of bonus payment were followed

Particulars	'Cee' (₹)	'Dee' (₹)	Total (₹)
Basic Wages	390.00 (78 Hrs. × ₹ 5)	570.00 (114 Hrs. × ₹ 5)	960.00
Bonus (as per Rowan Scheme) $(\frac{\text{Time Taken}}{\text{Time Allowed}} \times \text{Time Saved} \times \text{Excess Rate})$	208.93 $= (\frac{78}{168} \times 90 \times ₹ 5)$	299.25 $= (\frac{114}{240} \times 126 \times ₹ 5)$	508.18
Excess Wages Paid	598.93	869.25	1,468.18

(iii) Calculation of amount that could have been saved if Rowan Scheme were followed

Particulars	'Cee' (₹)	'Dee' (₹)	Total (₹)
Wages paid under Halsey Scheme	615.00	885.00	1,500.00
Wages paid under Rowan Scheme	598.93	869.25	1,468.18
Difference (Savings)	16.07	15.75	31.82

RTP Sep 2024 – Q8

8. The labour turnover rates for the quarter ended 30th June, 2024 are computed as 14%, 8% and 6% under Flux method, Replacement method and Separation method respectively. If the number of workers replaced during 1st quarter of the financial year 2024-25 is 36, COMPUTE the following:
- (i) The number of workers recruited and joined; and
 - (ii) The number of workers left and discharged.

8. Labour Turnover Rate (Replacement method) = $\frac{\text{No. of workers replaced}}{\text{Average No. of workers}}$

Or, $\frac{8}{100} = \frac{36}{\text{Average No. of workers}}$

Or, Average No. of workers = 450

Labour Turnover Rate (Separation method) = $\frac{\text{No. of workers separated}}{\text{Average No. of workers}}$

Or, $\frac{6}{100} = \frac{\text{No. of workers separated}}{450}$

Or, No. of workers separated = 27

RTP Sep 2024 – Q8

$$\text{Labour Turnover Rate (Flux Method)} = \frac{\text{No. of Separations} + \text{No. of accession (Joinings)}}{\text{Average No. of workers}}$$

$$\text{Or, } \frac{14}{100} = \frac{27 + \text{No. of accessions (Joinings)}}{450}$$

$$\text{Or, } 100 (27 + \text{No. of Accessions}) = 6,300$$

$$\text{Or, No. of Accessions} = 36$$

(i) The No. of workers recruited and Joined = 36

(ii) The No. of workers left and discharged = 27

RTP May 2024 – Q2

2. The board of the J Ltd. has been appraised by the General Manager (HR) that the employee attrition rate in the company has increased. The following facts has been presented by the GM(HR):
- (1) Training period of the new recruits is 50,000 hours. During this period their productivity is 60% of the experienced workers. Time required by an experienced worker is 10 hours per unit.
 - (2) 20% of the output during training period was defective. Cost of rectification of a defective unit was ₹ 25.
 - (3) Potential productive hours lost due to delay in recruitment were 1,00,000 hours.
 - (4) Selling price per unit is ₹ 180 and P/V ratio is 20%.
 - (5) Settlement cost of the workers leaving the organization was ₹ 1,83,480.
 - (6) Recruitment cost was ₹ 1,56,340
 - (7) Training cost was ₹ 1,13,180

RTP May 2024 – Q2

You being an associate finance to GM(HR), has been asked the following questions:

- (i) How much quantity of output is lost due to labour turnover?
 - (a) 10,000 units
 - (b) 8,000 units
 - (c) 12,000 units
 - (d) 12,600 units

RTP May 2024 – Q2

- (ii) How much loss in the form of contribution, the company incurred due to labour turnover?
- (a) ₹ 4,32,000
 - (b) ₹ 4,20,000
 - (c) ₹ 4,36,000
 - (d) ₹ 4,28,000
- (iii) What is the cost repairing of defective units?
- (a) ₹ 75,000
 - (b) ₹ 15,000
 - (c) ₹ 50,000
 - d) ₹ 25,000

RTP May 2024 – Q2

- (iv) Calculate the profit lost by the company due to increased labour turnover.
- (a) ₹ 7,50,000
 - (b) ₹ 15,00,000
 - (c) ₹ 5,00,000
 - (d) ₹ 9,00,000
- (v) How much quantity of output is lost due to inexperience of the new worker?
- (a) 1,000 units
 - (b) 2,600 units
 - (c) 2,000 units
 - (d) 12,600 units

RTP May 2024 – Q2

2. (i) (c) Output by experienced workers in 50,000 hours = $\frac{50,000}{10}$
= 5,000 units
- ∴ Output by new recruits = 60% of 5,000 = 3,000 units
- Loss of output = 5,000 – 3,000 = 2,000 units
- Total loss of output = Due to delay recruitment +
Due to inexperience
= 10,000 + 2,000 = **12,000 units**
- (ii) (a) Contribution per unit = 20% of ₹ 180 = ₹ 36
- Total contribution lost = ₹ 36 × 12,000 units = **₹ 4,32,000**
- (iii) (b) Cost of repairing defective units = 3,000 units × 0.2 × ₹ 25
= **₹ 15,000**

RTP May 2024 – Q2

(iv) (d) Calculation of loss of profit due to labour turnover

	(₹)
Loss of Contribution	4,32,000
Cost of repairing defective units	15,000
Recruitment cost	1,56,340
Training cost	1,13,180
Settlement cost of workers leaving	1,83,480
Profit forgone in 2022-23	9,00,000

(v) (c) Output by experienced workers in 50,000 hours = $\frac{50,000}{10}$
= 5,000 units

∴ Output by new recruits = 60% of 5,000 = 3,000 units

Loss of output = 5,000 – 3,000 = **2,000 units**

RTP May 2023 – Q2

2. Following information are available from the cost records of BMR Limited, CALCULATE Labour turnover rate and Labour flux rate:

No. of Employees as on 01.04.2021 = 9,400

No. of Employees as on 31.03.2022 = 10,600

During the year, 160 Employees left while 640 Employees were discharged and 1,500 Employees were recruited during the year; of these, 400 Employees were recruited because of exits and the rest were recruited in accordance with expansion plans.

2. Employee turnover rate:

It comprises of computation of Employee turnover by using following methods:

(i) Separate Method:
$$= \frac{\text{Number of employees separated during the period}}{\text{Average number of employees during the period on roll}} \times 100$$

OR,
$$= \frac{\text{Number of employees left} + \text{Number of employees discharged}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{(160 + 640)}{(9,400 + 10,600) \div 2} \times 100$$

$$= \frac{800}{10,000} \times 100 = 8\%$$

(ii) Replacement Method
$$= \frac{\text{Number of employees replaced during the period}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{400}{10,000} \times 100 = 4\%$$

$$(iii) \text{ New Recruitment} = \frac{\text{Number of employees joining in a period (excluding replacement)}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{\text{Number of Recruitments} - \text{Number of Replacements}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{1500 - 400}{10,000} \times 100$$

$$= \frac{1,100}{10,000} \times 100 = 11\%$$

$$\text{Flux Method} = \frac{\text{Number of separation} + \text{Number of replacement} + \text{Number of new joining}}{\text{Average number of employees during the period on roll}} \times 100$$

$$= \frac{(800 + 400 + 1,100)}{(9,400 + 10,600) \div 2} \times 100$$

$$= \frac{2,300}{10,000} \times 100 = 23\%$$

RTP Nov 2022 – Q2

2. HR Ltd. is progressing in its legal industry. One of its trainee executives, Mr. H, in the Personnel department has calculated labour turnover rate 24.92% for the last year using Flux method.

Following is the data provided by the Personnel department for the last year:

Employees	At the beginning	Joined	Left	At the end
Records clerk	810	1,620	90	2,340
Human Resource Manager	?	30	90	60
Legal Secretary	?	90	---	?
Staff Attorney	?	30	30	?
Associate Attorney	?	30	---	45
Senior Staff Attorney	6	---	---	18
Senior Records clerk	12	---	---	51
Litigation attorney	?	---	---	?

RTP Nov 2022 – Q2

Employees transferred from the Subsidiary Company				
Senior Staff Attorney	---	12	---	---
Senior Records clerk	---	39	---	---
Employees transferred to the Subsidiary Company				
Litigation attorney	---	---	90	---
Associate Attorney	---	---	15	---

At the beginning of the year there were total 1,158 employees on the payroll of the company. The opening strength of the Legal Secretary, Staff Attorney and Associate Attorney were in the ratio of 3 : 3 : 2.

The company has decided to abandon the post of Litigation attorney and consequently all the Litigation attorneys were transferred to the subsidiary company.

The company and its subsidiary are maintaining separate set of books of account and separate Personnel Department.

You are required to:

- CALCULATE Labour Turnover rate using Replacement method and Separation method.
- VERIFY the Labour turnover rate calculated under Flux method by Mr. H

RTP Nov 2022 – Q2

(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
Records clerk	810	2,340
Human Resource Manager [Left- 90 + Closing- 60 – Joined- 30]	120	60
Legal Secretary*	45	135
Staff Attorney*	45	45
Associate Attorney*	30	45
Senior Staff Attorney	6	18
Senior Records clerk	12	51
Litigation attorney	90	0
Total	1,158	2,694

(*) At the beginning of the year:

Strength of Legal Secretary, Staff Attorney and Associate Attorney =

$[1158 - \{810 + 120 + 6 + 12 + 90\} \text{ employees}]$ or $[1158 - 1038 = 120 \text{ employees}]$

$[\{\text{Legal Secretary} - 120 \times \frac{3}{8} = 45, \text{Staff Attorney} - 120 \times \frac{3}{8} = 45 \text{ \& Associate Attorney} - 120 \times \frac{2}{8} = 30\} \text{ employees}]$

At the end of the year:

$[\text{Legal Secretary} - (\text{Opening } 45 + 90 \text{ Joining}) = 135; \text{Staff Attorney} - (\text{Opening } 45 + 30 \text{ Joined} - 30 \text{ Left}) = 45]$

RTP Nov 2022 – Q2

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

Particulars	Separations	New Recruitment	Replacement	Total Joining
Records clerk	90	1,530	90	1,620
Human Resource Manager	90	--	30	30
Legal Secretary	--	90	--	90
Staff Attorney	30	--	30	30
Associate Attorney	15	15	15	30
Senior Staff Attorney	--	12	--	12
Senior Records clerk	--	39	--	39
Litigation attorney	90	--	--	--
Total	315	1,686	165	1,851

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

RTP Nov 2022 – Q2

(a) Calculation of Labour Turnover rate:

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

$$= \frac{165}{(1,158+2,694)/2} \times 100 = \frac{165}{1,926} \times 100 = 8.57\%$$

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

$$= \frac{315}{1,926} \times 100 = 16.36\%$$

(b) Labour Turnover rate under Flux Method:

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

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

$$= \frac{1,851+315}{1,926} \times 100 = 112.46\%$$

Labour Turnover rate calculated by Mr. H is incorrect as it seems he has not taken the No. of new recruitment while calculating the labour turnover rate under Flux method.

RTP May 2022 – Q2

2. A total of 108 labour hours have been put in a particular job card for repair work engaging a semi-skilled and skilled labour (Mr. Deep and Mr. Sam respectively).

The hours devoted by both the workers individually on daily basis for this particular job are given below:

Monday	Tuesday	Wednesday	Thursday	Friday
10.5	8.0	10.5	9.5	10.5

The skilled labour also worked on Saturday for 10 hours.

Sunday is a weekly holiday and each worker has to work for 8 hours on all week days and 5 hours on Saturdays; the workers are however paid full wages for Saturday (8 hours for 5 hours worked).

Semi-skilled and skilled worker is paid ordinary wage @ ₹ 400 and ₹ 600 respectively per day of 8 hours labour. Further, the workers are also paid dearness allowance @ 20%.

Extra hours worked over and above 8 hours are also paid at ordinary wage rate however, overtime premium of 100% of ordinary wage rate is paid if a worker works for more than 9 hours in a day AND 48 hours in a week.

You are required to COMPUTE the wages payable to Mr. Deep (Semi-skilled) and Mr. Sam (Skilled).

RTP May 2022 – Q2

2. Calculation of total normal hours to be paid for Mr. Deep (Semi-skilled):

Day	Normal hours	Extra hours	Overtime hours	Equivalent normal hours for overtime worked	Total normal hours
	A	B	C	D = C×2	E = A+B+D
Monday	8	1	1½	3	12
Tuesday	8	--	--	--	8
Wednesday	8	1	1½	3	12
Thursday	8	1	½	1	10
Friday	8	1	1½	3	12
Saturday	--	--	--	--	--
Total	40	4	5	10	54

RTP May 2022 – Q2

Calculation of total normal hours to be paid for Mr. Sam (Skilled):

Day	Normal hours	Extra hours	Overtime hours	Equivalent normal hours for overtime worked	Total normal hours
	A	B	C	D = C×2	E = A+B+D
Monday	8	1	1½	3	12
Tuesday	8	---	---	---	8
Wednesday	8	1	1½	3	12
Thursday	8	1	½	1	10
Friday	8	1	1½	3	12
Saturday	5	3* + 1	1**	2	11
Total	45	8	6	12	65

*Mr. Sam will be paid for equivalent 8 normal working hours at ordinary wage rate, though 5 hours of working is required on Saturday. Further, extra 9th hour worked will also be paid at ordinary wage rate.

** Overtime of 1 hour worked over and above 9 hours will be paid at overtime rate.

RTP May 2022 – Q2

Wages payable:

	Mr. Deep	Mr. Sam
Basic Wages per hour (₹ 400/8, ₹ 600/8) (₹)	50	75
Dearness allowance per hour (@ 20%) (₹)	10	15
Hourly rate (₹)	60	90
Total equivalent normal hours	54	65
Total Wages payable (₹)	3,240	5,850