Remuneration and Incentives

1. Calculate the earnings of a worker from the following information:

A. Time rate method

B. Piece rate method

C. Halsey Plan and

D. Rowan Plan

Standard time allowed is 30 hours, Time taken- 20 hours

Hourly rate is Re 1 per hour plus dearness allowance@50 paisa per hour worked.

TR+ 50% (S-T) X R= 20X1 + 50% (30-20) X1= 25 + 10 =35

**Ans- A- Rs.30, B- Rs.40, C- Rs.35, D-Rs36.67**

1. Calculate the earnings of worker under

A.Rowan Premium Bonus System

B. Halsey Weir Premium Bonus System ( 40% bonus to worker) from the following:

Also calculate effective rate per hour.

Hourly rate (guaranteed) – 0.75 per hour

Standard time for producing 1 dozen of article in 3 hours.

Actual time taken by the worker to produce 20 dozen articles is 48 hours

Calculation of standard time:

For 1 dozen time allowed = 3 hours

For 20 dozens = 3/1 X20 = 60 hours=S

T= 48, R=0.75

Rowan plan- TR+ (S-T)/S X TR

(48X0.75) + (60-48)/60 X(48 X.75)= 43.2

EPH= 43.2/48=0.9

Halsey Weir = TR + 40% ( S-T) X R

**Ans- A- Rs.43.20 and B- Rs.39.60**

1. In an engineering works, the standard time for a job is 16 hours and the basic wage is Re.1 per hour. A bonus scheme is instituted so that worker is to receive his normal rate for hours actually worked and 50% bonus for the time saved. Materials for the job cost Rs20 and overheads charged on a basis of Rs. 2 per labour hour.

Calculate the wages and effective rate of earnings per hour if the job is completed (A)- 12 hours and (B)- If completed in 14 hours. Also ascertain the factory cost of the job on the same basis.

**Ans- A- Rs14, Rs 1.167,B- Rs.15, Rs.1.071, Rs63.**

1. The standard hours of job X is 100 hours. The job has been completed by Virat in 60 hours, Aswin in 70 hours and Yuvraj in 95 hours.

The bonus system is applicable to the job is as follows:

|  |  |
| --- | --- |
| Percentage of time saved | Bonus |
| Saving up to 10% | 10% of time saved |
| From 11% to 20% | 15% of time saved |
| From 21%-40% | 20% of time saved |
| From 41% to 100% | 25% of time saved |

The rate of pay is Re.1 per hour. Calculate the total earnings of each worker and also the rate of earnings per hour.

**Ans:**

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | Virat | Aswin | Yuvraj |
| Total earnings | 68 | 76 | 95.50 |
| Earnings per hour | 1.13 | 1.09 | 1 |

1. Calculate the earnings of A and B under Straight Piece rate and Taylor’s differential piece rate system from the following:

Standard Production- 7 units per hour

Factory day- 8 hours

Normal time rate- Rs2.80 per hour

Differential piece rate: 80% of piece rate below standard and 120 of piece rate above standard.

A produces -50 units a day

B produces- 60 units a day

**Ans:**

|  |  |  |
| --- | --- | --- |
| Particulars | A | B |
| Earnings under straight piece rate | 20 | 24 |
| Earnings under differential piece rate | 16 | 28.80 |

1. In a manufacturing company a daily wage rate is guaranteed for a worker is Rs.1.87 and the standard output is fixed for the month is 1,000 units, representing 100 percent efficiency. The daily wage rate is paid without bonus to those workers who show up to 66. 67% efficiency standard. Beyond this there is bonus payable is a graded scale in a fixed ratio to the increased output as follows:

|  |  |
| --- | --- |
| Efficiency | Bonus payable |
| 90% | 10% |
| 100% | 20% |

Further increase of 1% for every 1 percent further rise in efficiency. Find out the total earnings of A, B, C and D who have worked for 26 days in a month. Worker’s output is A -500 units, B-900 units, C- 1,000 units and D- 1,100 units.

**Ans: A-Rs.48.62, B- Rs.53.48, C- Rs.58.34 and D- Rs63.21**

1. A worker takes 9 hours to complete a job on daily wage and 6 hours on a scheme of payment by results. His daily rate is 75 paise an hour: the material cost of the product is Rs.4 and the overheads are recovered at 150% of the total direct wages. Calculate the factory cost of the product under:
2. Piece work plan, B- Rowan Plan- C-Halsey plan.

**Ans- A- Rs.20.88, B- Rs-19 and C-18.07**

1. From the following data calculate the total monthly remuneration of three workers A, B and C.

Standard production per month per worker is 1,000 units

Actual production during the month- A- 850 units, B- 720 units and C-960 units.

Piece work rate -0.20 per piece

Dearness Wages- Rs50 per month (fixed), House Rent Allowance – Rs.20 per month (fixed), Time allowances- Rs.20 per month ( fixed)

Additional production bonus at the rate Rs.5 per each percentage of actual production exceeding 80% of the standard.

Ans- A-Rs.285, B-Rs.234 and C- Rs362

1. From the following particulars you are required to work out the earnings of a worker for a week under:

A. Straight piece rate,

B. Differential piece rate

C. Halsey premium plan

D. Rowan Premium plan

Weekly working hours- 48

Hourly wage rate- Rs.7.50

Piece rate per unit- Rs 3

Normal time taken per piece- 20 minutes

Normal output per week-120 pieces

Actual output per week- 150 pieces

Differential piece rate- 80% of piece rate below standard and 120% of piece rate above standard.

Ans- A –Rs.450, B-Rs.540, C- Rs.367.50 and D-374.40

1. From the following information given calculate the earnings of each employee, under Halsey-weir ( 30%) premium, Halsey premium and Rowan premium.

|  |  |  |  |
| --- | --- | --- | --- |
| Employee | A | B | C |
| Time allowed-hours for 100 units | 35 | 40 | 42 |
| Wage rate per unit | 4 | 2 | 3 |
| Hourly rate | 7 | 8 | 10 |
| Actual time taken in hours | 50 | 48 | 46 |
| Actual units produced | 200 | 150 | 125 |

**Ans**

|  |  |  |  |
| --- | --- | --- | --- |
| Particulars | A | B | C |
| Halsey-weir | 392 | 412.80 | 479.50 |
| Halsey | 420 | 432 | 492.50 |
| Rowan | 450 | 460.80 | 516.95 |

1. From the following data tabulate the total earnings per hour of each worker separately under :

Halsey and Rowan Scheme of incentive plan

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Workers | A | B | C | D | E | F |
| Time allowed | 3 | 4 | 5 | 6 | 7 | 8 |
| Time taken | 5 | 3 | 4 | 5 | 3 | 3 |
| Rate per hour | 2 | 2 | 2 | 2 | 2 | 2 |

**Ans**: Earning per hour

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Workers | A | B | C | D | E | F |
| Halsey | 2 | 2.33 | 2.25 | 2.20 | 3.33 | 3.67 |
| Rowan | 2 | 2.50 | 2.40 | 2.33 | 3.14 | 3.25 |

1. Calculate the earnings of workers A, B and C under straight piece rate and Merrick’s multiple piece rate system from the following:

Normal rate per hour-Rs 1.80

Standard time allowed per unit- 1 minute

Output per day is as follows:

A-384 units, B- 450 units and C- 552 units

Working hours per day- 8 hours.

1. The standard time allowed for the job is 30 hours. The hourly rate of guaranteed wages is Rs 1.50. Because of the saving in time, a worker X gets an hourly wage of Rs.1.80 under Rowan plan for the same saving in time. Calculate the hourly wage rate of a worker Y will get under Halsey plan.

Ans- Rs.1.69