

CHAPTER 3

LABOUR

Question 1

Using Taylor's differential piece rate system, find the earning of A from the following particulars:

Standard time per piece	12 minutes
Normal rate per hour (in a 8 hours day)	Rs. 20
A produced	37 Units

(May 2007, 2 Marks)

Answer

$$\text{Standard output per day} \left(\frac{8 \times 60}{12} \right) = 40 \text{ units}$$

$$\text{Actual output} = 37 \text{ units}$$

$$\text{Efficiency percentage} \frac{37}{40} \times 100 = 92.5\%$$

Under this method lower rate is 83% of the normal piece rate and is applicable if efficiency of worker is below 100%.

$$\text{Earning rate per unit} = 83\% \text{ of } \frac{20}{5}^* \text{ or } 3.32 \text{ per unit}$$

$$\text{Earning} = 37 \times 3.32 = \text{Rs. } 122.84$$

$$* \text{ In one hour, production will be } = \frac{60 \text{ minutes}}{\text{standard time per peice, i.e. 12 minutes}} = 5 \text{ units}$$

Question 2

Enumerate the various methods of Time booking.

(May 2007, 2 Marks)

Answer

The various methods of time booking are:

- (a) Job ticket.
- (b) Combined time and job ticket.

- (c) Daily time sheet.
- (d) Piece work card.
- (e) Clock card.

Question 3

Enumerate the remedial steps to be taken to minimize the labour turnover.

(Nov 2007, 3 Marks)

Answer

The following steps are useful for minimizing labour turnover:

- (a) *Exit interview*: An interview be arranged with each outgoing employee to ascertain the reasons of his leaving the organization.
- (b) *Job analysis and evaluation*: to ascertain the requirement of each job.
- (c) Organisation should make use of a scientific system of recruitment, placement and promotion for employees.
- (d) Organisation should create healthy atmosphere, providing education, medical and housing facilities for workers.
- (e) Committee for settling workers grievances.

Question 4

Standard output in 10 hours is 240 units; actual output in 10 hours is 264 units. Wages rate is Rs. 10 per hour. Calculate the amount of bonus and total wages under Emerson Plan.

(May 2008, 2 Marks)

Answer

$$\text{Efficiency percentage} = \frac{264}{240} \times 100 = 110\%$$

As per Emerson plan, in case of above 100% efficiency bonus of 20% of basic wages plus 1% for each 1% increase in efficiency is admissible.

$$\text{So, new bonus percentage} = 20 + (110 - 100) = 30$$

$$\begin{aligned} \text{Total Bonus} &= \frac{30}{100} (\text{hours worked} \times \text{rate per hour}) \\ &= \frac{30}{100} \times 10 \times 10 = \text{Rs. } 30 \end{aligned}$$

Total wages = Rs. $(10 \times 10) + 30$ = Rs. 130.

Question 5

Distinguish between Job evaluation and Merit rating.

(May 2008, 3 Marks)

Answer

Job Evaluation and Merit Rating:

- ◆ Job evaluation is the assessment of the relative worth of jobs within a company and merits rating are the assessment of the relative worth of the man behind the job.
- ◆ Job evaluation and its accomplishment are means to set up a rational wage and salary structure where as merits rating provides a scientific basis for determining fair wages for each worker based on his ability and performance.
- ◆ Job evaluation simplifies wage administration by bringing an uniformity in wage rates where as merits rating is used to determine fair rate of pay for different workers.

Question 6

Describe briefly, how wages may be calculated under the following systems:

- (i) *Gantt task and bonus system*
- (ii) *Emerson's efficiency system*
- (iii) *Rowan system*
- (iv) *Halsey system*
- (v) *Barth system.*

(Nov 2008, 8 Marks)

Answer

- (i) **Gantt task and bonus system:** As per this system a higher standard is set and payment is made at time rate to a worker for production below the standard. If the standards are achieved or exceeded, the payment is made at a higher piece rate. The piece rate fixed also includes an element of bonus to the extent of 20%. Bonus is calculated over the time rate.
- (ii) **Emerson's Efficiency System:** Under this system wages may be calculated as below:

Performance	Wages
Below 66⅔% efficiency	— Time rate without any bonus

- 66⅔% - 100% efficiency — Bonus varies between 1% to 20%*
- Above 100% efficiency — Bonus of 20% of basic wages plus
1% for every 1% increase in efficiency.

*At 100% efficiency the bonus percentage will be 20%.

- (iii) **Rowan System:** As per this system standard time allowance is fixed for the performance of a job and bonus is paid if time is saved.

$$\text{Wages under Rowan System} = (\text{Time taken} \times \text{rate per unit of time}) + \frac{\text{time saved}}{\text{time allowed}} \times \text{time taken} \times \text{rate per unit of time}$$

- (iv) **Halsey System:** Under this system a standard time is fixed for each job. If there is no saving on this standard time allowance, the worker is paid only his day rate.

$$\text{Wages under Halsey System} = \text{Time taken} \times \text{Time rate} + (50\% \text{ of time saved} \times \text{time rate})$$

- (v) **Barth System:**

$$\text{Earnings under Barth System} = \text{Hourly rate} \times \sqrt{\text{Standard hours} \times \text{Hours worked}}$$

This is particularly suitable for trainees and beginners and also for unskilled workers.

Question 7

Two workmen, A and B, produce the same product using the same material. A is paid bonus according to Halsey plan, while B is paid bonus according to Rowan plan. The time allowed to manufacture the product is 100 hours. A has taken 60 hours and B has taken 80 hours to complete the product. The normal hourly rate of wages of workman A is Rs.24 per hour. The total earnings of both the workers are same. Calculate normal hourly rate of wages of workman B.

(May 2009, 2 Marks)

Answer

	A	B
Time Allowed (Hrs.)	100	100
Time Taken (Hrs.)	<u>60</u>	<u>80</u>
Time Saved (Hrs.)	<u>40</u>	<u>20</u>
Let the rate of wages of the worker B is Rs.x per hour		
Normal Wages	1440	80x
(Time taken × Hourly rate of wages)	(60×24)	

Bonus	480	16x
	$(1/2 \times 40 \times 24)$	$\left(\frac{20}{100}\right) \times (80 \times x)$
	1920	96x

According to the problem,

$$\begin{aligned}
 \text{Total earnings of A} &= \text{Total earnings of B} \\
 1920 &= 96x \\
 x &= \frac{1920}{96} = \text{Rs. } 20
 \end{aligned}$$

∴ Hourly rate of wages of the worker is Rs.20 per hour.

Alternative Solution:

In case of worker B, in place of x, it can be written as '80x hourly rate'.

Hence final equation will be

$$96x \text{ hourly rate} = 1920$$

$$\text{Hourly rate of B} = \frac{1920}{96} = \text{Rs. } 20$$

Question 8

Discuss accounting treatment of idle capacity costs in cost accounting.

(May 2009, 3 Marks)

Answer

Treatment of Idle Capacity Cost

- (a) If idle capacity is due to unavoidable reasons such as repairs & maintenance, change over of job etc., a supplementary overhead rate may be used to recover the idle capacity cost. In this case, the costs are charged to production capacity utilized.
- (b) If idle capacity cost is due to avoidable reasons such as faulty planning, power failure etc, the cost should be charged to P/L A/c.
- (c) If idle capacity is due to seasonal factors, then the cost should be charged to cost of production by inflating overhead rates.

Question 9

Standard Time for a job is 90 hours. The hourly rate of Guaranteed wages is Rs.50. Because of the saving in time a worker a gets an effective hourly rate of wages of Rs.60 under Rowan premium bonus system. For the same saving in time, calculate the hourly rate of wages a worker B will get under Halsey premium bonus system assuring 40% to worker.

(November 2009, 3 Marks)

Answer

Increase in Hourly Rate of Wages (Rowan Plan) is (Rs.60 – Rs.50) = Rs.10

This is Equal to

$$\frac{\text{Time Saved}}{\text{Standard Time}} \times \text{Hourly rate}$$

$$\text{Or } 10 = \frac{\text{Time Saved}}{\text{Standard Time}} \times 50$$

$$\text{Or } \frac{\text{Time Saved}}{90} \times 50 = 10$$

$$\text{Time Saved} = \frac{900}{50} = 18 \text{ Hours}$$

$$\text{Time Taken} = (90 - 18) = 72 \text{ Hours}$$

Effective Hourly Rate under Halsey System

$$\text{Time Saved} = 18 \text{ Hours}$$

$$\text{Bonus @ 40\%} = 18 \times 40\% \times 50 = \text{Rs.360}$$

$$\text{Total Wages} = (50 \times 72 + 360) = 3,960$$

Effective Hourly Rate

$$= 3,960 \div 72 \text{ Hours}$$

$$= \text{Rs.55}$$