UDHNA COLLEGE

SYBCOM SEM-4 ADVANCED ACCOUNTING & AUDITING P-3

CH: STANDARD COSTING

PRACTICE QUESTION-2 WITH SOLUTION

Q-1 The data regarding direct wages of a factory for March, 2023 is as follows:

- Gross direct wages: Rs. 1,95,000
- Standard hours produced: 5,400
- Standard rate per hour: Rs. 33
- Actual hours worked: 5,200 Calculate necessary labour variances.

ANS 1. LABOUR VARIANCES

- Standard Hours (SH): 5,400 hours
- Standard Rate (SR): Rs. 33 per hour
- Actual Hours (AH): 5,200 hours
- Actual Cost: Rs. 1,95,000
- Actual Rate (AR): Rs. 37.50 (Calculated as 1,95,000 / 5,200)

Variances:

- Labour Cost Variance (LCV): (5,400 x 33) - 1,95,000 = Rs. 16,800 (Unfavourable)
- Labour Rate Variance (LRV): 5,200 x (33 - 37.50) = Rs. 23,400 (Unfavourable)
- Labour Efficiency Variance (LEV): 33 x (5,400 - 5,200) = Rs. 6,600 (Favourable)

Q-2 The data about wages paid in a factory is as follows:

Type	Standard	Actual
Skilled	600 hours at Rs. 2	630 hours at Rs. 2.20
Semi-skilled	600 hours at Rs. 1.50	570 hours at Rs. 1.40

Calculate wage rate variance.

ANS 2. WAGE RATE VARIANCE

Formula used: Actual Hours x (Standard Rate - Actual Rate)

- Skilled Labour: 630 x (2.00 - 2.20) = Rs. 126 (Unfavourable)
- Semi-skilled Labour: 570 x (1.50 - 1.40) = Rs. 57 (Favourable)
- Total Wage Rate Variance: -126 + 57 = Rs. 69 (Unfavourable)

Q-3 The following standards have been set to manufacture a product of Avika Co. Ltd:

Direct Materials	**Rs.**
2 units of P at Rs. 4 per unit	8.00
3 units of Q at Rs. 3 per unit	9.00
15 units of R at Rs. 1 per unit	15.00
	32.00
Direct Labour: 3 hours at Rs. 8 per hour	24.00
Total Standard Cost	**56.00**

The company manufactured and sold 6,000 units of the product during the year. Direct materials costs were as follows:

- 12,500 units of P: Rs. 55,000
- 18,000 units of Q: Rs. 50,400
- 88,500 units of R: Rs. 1,06,200

The company worked for 17,500 direct labour hours during the year.

For 2,500 of these hours the company paid at Rs. 12 per hour, while for the remaining the wages were paid at 13 per hour.

Calculate:

(i) Materials Cost Variance (ii) Materials Price Variance (iii) Material Usage Variance

(iv) Labour Cost Variance (v) Labour Rate Variance (vi) Labour Efficiency Variance

ANS 3. Actual Production: 6,000 units

- Standard Data per unit:
    - Material P: 2 units at Rs. 4

    - Material Q: 3 units at Rs. 3
    - Material R: 15 units at Rs. 1
    - Direct Labour: 3 hours at Rs. 8 per hour
- Actual Material Data:
    - P: 12,500 units for Rs. 55,000
    - Q: 18,000 units for Rs. 50,400
    - R: 88,500 units for Rs. 1,06,200
- Actual Labour Data:
    - Total Hours: 17,500
    - 2,500 hours paid at Rs. 12
    - 15,000 hours (Remaining) paid at Rs. 13

Calculation of Standard Quantities (SQ) for 6,000 Units

- Material P: 6,000 units x 2 = 12,000 units
- Material Q: 6,000 units x 3 = 18,000 units
- Material R: 6,000 units x 15 = 90,000 units

Material Variances

(i) Materials Cost Variance (MCV) Formula: (Standard Quantity x Standard Price) - Actual Cost

- Material P: (12,000 x 4) - 55,000 = Rs. 7,000 (Unfavourable)
- Material Q: (18,000 x 3) - 50,400 = Rs. 3,600 (Favourable)
- Material R: (90,000 x 1) - 1,06,200 = Rs. 16,200 (Unfavourable)
- Total MCV: Rs. 19,600 (Unfavourable)

(ii) Materials Price Variance (MPV) Formula: Actual Quantity x (Standard Price - Actual Price)

- Material P: 55,000 - (12,500 x 4) = Rs. 5,000 (Unfavourable)
- Material Q: 50,400 - (18,000 x 3) = Rs. 3,600 (Favourable)
- Material R: 1,06,200 - (88,500 x 1) = Rs. 17,700 (Unfavourable)
- Total MPV: Rs. 19,100 (Unfavourable)

(iii) Material Usage Variance (MUV) Formula: Standard Price x (Standard Quantity - Actual Quantity)

- Material P: 4 x (12,000 - 12,500) = Rs. 2,000 (Unfavourable)
- Material Q: 3 x (18,000 - 18,000) = Rs. 0
- Material R: 1 x (90,000 - 88,500) = Rs. 1,500 (Favourable)
- Total MUV: Rs. 500 (Unfavourable)

Labour Variances

Preliminary Labour Calculations:

- Standard Hours (SH): 6,000 units x 3 hours = 18,000 hours
- Actual Cost: (2,500 x 12) + (15,000 x 13) = 30,000 + 195,000 = Rs. 2,25,000

(i) Labour Cost Variance (LCV) Formula: (Standard Hours x Standard Rate) - Actual Cost

- Calculation: (18,000 x 8) - 2,25,000
- Result: 144,000 - 225,000 = Rs. 81,000 (Unfavourable)

(v) Labour Rate Variance (LRV) Formula: Actual Hours x (Standard Rate - Actual Rate)

- For 2,500 hours: 2,500 x (8 - 12) = Rs. 10,000 (Unfavourable)
- For 15,000 hours: 15,000 x (8 - 13) = Rs. 75,000 (Unfavourable)
- Total LRV: Rs. 85,000 (Unfavourable)

(vi) Labour Efficiency Variance (LEV) Formula: Standard Rate x (Standard Hours - Actual Hours)

- Calculation: 8 x (18,000 - 17,500)
- Result: 8 x 500 = Rs. 4,000 (Favourable)

Q-4 The standard time and rate for unit component A are given below: Standard hours 15; Standard rate Rs. 4 per hour. The actual data and related information are as under: Actual production 1000 units; actual hours 15,300 hours, actual rate Rs. 3.90 per hour. Calculate Labour Rate Variance.

ANS-4 Standard Hours (SH) for Actual Output:

- Formula: Actual Production units x Standard Hours per unit
- Calculation: 1,000 units x 15 hours = 15,000 hours

Labour Rate Variance (LRV)

- Formula: Actual Hours x (Standard Rate - Actual Rate)

- Calculation: 15,300 x (4.00 - 3.90)
- Calculation: 15,300 x 0.10
- Result: Rs. 1,530 (Favourable)

Q-5 The standard labour hours and rate of Article 'A' of Omkaar Ltd. were as follows:

Labour	Hours	Rate per hour (Rs.)	Total Rs.
Skilled	10	3.00	30.00
Semi-skilled	8	1.50	12.00
Unskilled	16	1.00	16.00
Total			58.00

The actual production was 1,000 units. Article 'A' for which the actual hours worked, and wages are given below:

Labour	Total hours	Total Rs.
Skilled	9,000	36,000
Semi-skilled	8,400	12,600
Unskilled	20,000	18,000

Calculate:

(1) Labour Cost Variance

(2) Labour Rate Variance

(3) Labour Efficiency Variance

ANS-5 Calculation of Standard Hours (SH) for 1,000 units:

- Skilled: 1,000 units x 10 hours = 10,000 hours.
- Semi-skilled: 1,000 units x 8 hours = 8,000 hours.
- Unskilled: 1,000 units x 16 hours = 16,000 hours.

Calculation of Actual Rate (AR):

- Skilled: 36,000 / 9,000 = Rs. 4.00 per hour.
- Semi-skilled: 12,600 / 8,400 = Rs. 1.50 per hour.

- Unskilled: 18,000 / 20,000 = Rs. 0.90 per hour.

Labour Variances Calculation

(1) Labour Cost Variance (LCV) Formula: (Standard Hours x Standard Rate) - Actual Wages Paid

- Skilled: (10,000 x 3.00) - 36,000 = Rs. 6,000 (Unfavourable).
- Semi-skilled: (8,000 x 1.50) - 12,600 = Rs. 600 (Unfavourable).
- Unskilled: (16,000 x 1.00) - 18,000 = Rs. 2,000 (Unfavourable).
- Total LCV: Rs. 8,600 (Unfavourable)

(2) Labour Rate Variance (LRV) Formula: Actual Hours x (Standard Rate - Actual Rate)

- Skilled: 9,000 x (3.00 - 4.00) = Rs. 9,000 (Unfavourable).
- Semi-skilled: 8,400 x (1.50 - 1.50) = Rs. 0.
- Unskilled: 20,000 x (1.00 - 0.90) = Rs. 2,000 (Favourable).
- Total LRV: Rs. 7,000 (Unfavourable)

(3) Labour Efficiency Variance (LEV) Formula: Standard Rate x (Standard Hours - Actual Hours)

- Skilled: 3.00 x (10,000 - 9,000) = Rs. 3,000 (Favourable).
- Semi-skilled: 1.50 x (8,000 - 8,400) = Rs. 600 (Unfavourable).
- Unskilled: 1.00 x (16,000 - 20,000) = Rs. 4,000 (Unfavourable).
- Total LEV: Rs. 1,600 (Unfavourable)

Q-6 Standard cost for one unit of a product No. 143 is estimated as follows: Labour 40 hours @ Rs. 8 per hour. 400 units were manufactured during the month of January, 2024 with the following labour costs: Labour: Rs. 1,27,500 @ Rs. 8.50 per hour. Calculate labour Variances.

ANS-6 Calculation of Actual Hours (AH):

- Formula: Total actual cost / Actual rate.
- Calculation: 1,27,500 / 8.50 = 15,000 hours.

Labour Variances Calculation

(1) Labour Cost Variance (LCV)

- Formula: (Standard Hours x Standard Rate) - Total Actual Cost.

- Calculation: (16,000 x 8) - 1,27,500.
- Calculation: 1,28,000 - 1,27,500.
- Result: Rs. 500 (Favourable).

(2) Labour Rate Variance (LRV)

- Formula: Actual Hours x (Standard Rate - Actual Rate).
- Calculation: 15,000 x (8.00 - 8.50).
- Calculation: 15,000 x (-0.50).
- Result: Rs. 7,500 (Unfavourable).

(3) Labour Efficiency Variance (LEV)

- Formula: Standard Rate x (Standard Hours - Actual Hours).
- Calculation: 8 x (16,000 - 15,000).
- Calculation: 8 x 1,000.
- Result: Rs. 8,000 (Favourable).