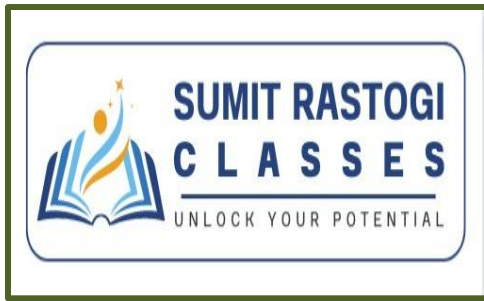




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TEST PAPER-02

(CHAPTER COVERED – STANDARD COSTNG)

MANAGEMENT ACCOUNTING

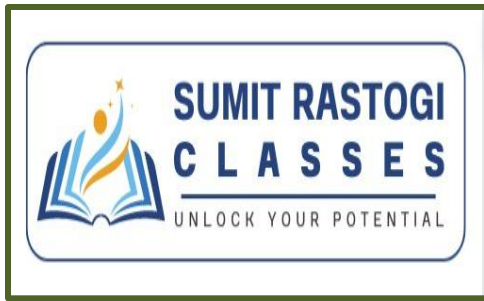
Time Allowed: 3 Hours

Full Marks: 100

**Section A contains Question Number 1. All parts of this question are compulsory.
Working notes should form part of the relevant answer.**

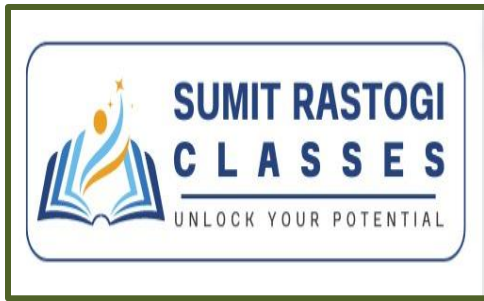
SECTION - A

1. Choose the correct answer from the given alternatives (you may write only the Roman number and the alphabet of your answer).
 - (i) The standard and actual data for product 'MNP' are given as under: Standard 40 hours @ ₹20 per hour. Actual 45 hours @ ₹22 per hour, so labour efficiency variance is
 - (A) ₹90 Favourable
 - (B) ₹100 Adverse
 - (C) ₹90 Adverse
 - (D) ₹100 Favourable
 - (ii) In a factory of ZEE LTD., where Standard Costing is followed, the budgeted fixed overheads for a budgeted production of 4800 units is ₹ 24,000. For a certain period actual (FOH) expenditure was ₹22,000 resulting in a fixed overhead volume variance of ₹ 3,000 (Adv.)
Calculate the actual production of ZEE LTD. for the period.
 - (A) 3,600 units
 - (B) 3,200 units
 - (C) 4,200 units
 - (D) 4,900 units



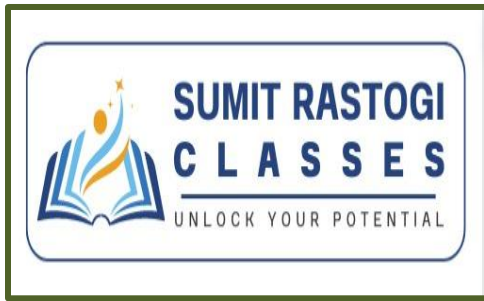
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- (iii) The standard wage rate is ₹40 per hour, Actual wage rate is ₹45 per hour, standard time is 500 hours and actual hours worked is 480 hours. If wages paid for 505 hours then labour idle time variance will be
(A) ₹ 1,000 (A)
(B) ₹ 225 (F)
(C) ₹ 200 (A)
(D) ₹ 1,125 (A)
- (iv) The management's time is saved by reporting only the deviations from the predetermined standards is called:
(A) Standard Costing
(B) Management by Exception
(C) Management by objectives
(D) Budgetary Control
- (v) During the month of March, 560 kg. of material was purchased at a total cost of ₹15,904. The stock of material increased by 15 kg. It is the company's policy to value the stocks at standard purchase price. If the material price variance was ₹224 (A), the standard price per kg. of material is:
(A) ₹ 28.00
(B) ₹ 29.20
(C) ₹ 28.40
(D) ₹ 28.80
- (vi) During a period 13600 labour hours were worked at a standard rate of ₹8 per hour. The direct labour efficiency variance was ₹8,800 (Adv). How many standard hours were produced?
(A) 13000 hours
(B) 13500 hours
(C) 12000 hours
(D) 12500 hours
- (vii) Average of Actual Price per kg of Material and Standard Price is ₹22.50. Difference between the Standard Quantity of Material and the Actual Quantity of Material 16 kg. Average of Standard Quantity of material and Actual Quantity of material 52 kg. Material Cost Variance is ₹ 100 (F). Calculate the Material Usage Variance.
(A) ₹ 320 (F)
(B) ₹ 320 (A)
(C) ₹ 470 (F)
(D) ₹ 470 (A)



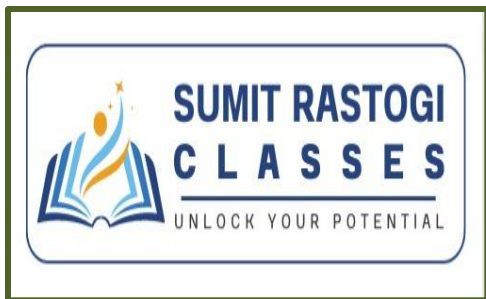
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- (viii) A favourable material price variance coupled with an unfavorable material usage variance would most likely result from
- (A) The purchase of low-quality materials
 - (B) Problems with labour efficiency
 - (C) Changes in the product mix
 - (D) Problems with processing machines
- (ix) In a factory of PERT LTD. where standard costing was followed, 4,000 kgs of materials at ₹ 15 per kg were consumed resulting in Material Cost Variance of ₹ 1,000 (Adv.) The Standard Material Cost of actual production was:
- (A) ₹ 61,000
 - (B) ₹ 60,000
 - (C) ₹ 59,000
 - (D) None of the above
- (x) If the Standard Cost of the Actual Quantity of Material Consumed is deducted from the Standard Cost of the Revised Standard Quantity, then we obtain
- (A) Direct Material Usage Variance
 - (B) Direct Material Mix Variance
 - (C) Direct Material Yield Variance
 - (D) Direct Material Price Variance
- (xi) During a period 2560 labour hours were worked at a standard rate of ₹7.50 per hour. The direct labour efficiency variance was ₹825 (A). How many standard hours were produced?
- (A) 2500
 - (B) 2550
 - (C) 2400
 - (D) 2450
- (xii) AB company budgets for fixed overhead of ₹24,000 and Production of 4800 units. Actual Production is 4200 units. If fixed overhead cost incurred is ₹22,000, the Fixed overhead volume variance will be:
- (A) ₹3,000 (Adv.)
 - (B) ₹3,000 (Fav.)
 - (C) ₹1,000 (Adv.)
 - (D) ₹2,000 (Fav.)



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- (xiii) In a factory of ZINB Ltd operating Standard Costing System, 2000 kgs of a material @ ₹12 per kg were used for a Product, resulting in Material Cost variance of ₹3000 (FAV). The standard material cost of actual production is
(A) ₹ 24,000
(B) ₹25,000
(C) ₹30,000
(D) ₹27,000
- (xiv) Calculate the Efficiency Ratio, if Capacity and Activity Ratios are 96% and 90.24% respectively.
(A) 106.388%
(B) 86.63%
(C) 94%
(D) 95%
- (xv) A Limited produces 500 units of product in 7,500 hours against standard hours of 8,000. If Standard rate per hour is ₹75, then Labour Efficiency Variance will be:
(A) ₹38,000 (F)
(B) ₹40,000 (F)
(C) ₹37,500 (A)
(D) ₹37,500 (F)



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SECTION – B

Answer any five questions from question number 2 to 8.

14×5=70

2 (a) ABOKASH LTD., operates a System of Standard Costing. The Company Manufactures a Chemical Product by mixing three ingredients Chemical A, B and C and processes the same. The Standard Cost data for the product are as follows:

Chemical	Percentage of Total Output	Standard Cost per kg (₹)
A	50%	40
B	30%	60
C	20%	95

Note: Loss during processing is 5% of input and this has no realizable value.

During the month of May'2015, 10,200 kg. of finished product was obtained from the Inputs as per details given below:

Chemical Consumed	Quantity purchased and issued	Actual Cost (₹)
A	5200 kg.	2,34,000
B	3600 kg.	2,19,600
C	1700 kg.	1,58,100

You are required to calculate

1. Material Cost Variance
2. Material Price Variance
3. Material Mix Variance
4. Material Yield Variance
5. Material Usage Variance

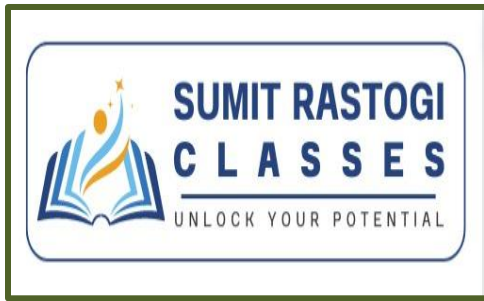
(8 Marks)

2 (b) A manufacturing company operates a costing system and showed the following data in respect of the month of November, 2015.

Budgeted		Actual	
Working Days	20	Working Days	22
Man Hours	4,000	Man Hours	4,200
Fixed Overhead Cost (₹)	2,400	Fixed Overhead Cost (₹)	2,500
Output (Units)	800	Output (Units)	900

You are required to calculate fixed overhead variances from the above data.

(6 Marks)



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3 (a) Following information relates to the labour of Baba Ltd.:

Particulars	Skilled	Semi-Skilled	Unskilled	Total
Number of workers in standard gang	12	8	5	25
Standard rate per hour	75	50	40	-
Number of workers in actual gang				25
Actual rate per hour	80	48	42	-

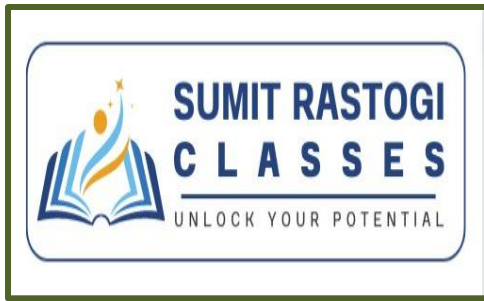
The standard output of the gang was 12 units per hour of product M. The gang was engaged for 200 hours during the month of March 2022 out of which 20 hours were lost due to machine breakdown and 2,295 units of product M were produced. The actual number of skilled workers was 2 times the semi-skilled workers. Total labour mix variance was 10,800 (A). You are required to calculate actual number of workers in each category.

(7 Marks)

3 (b) Calculate Variable Overheads Efficiency Variance, Fixed Overheads Efficiency Variance and Fixed Overheads Calendar Variance from the following information provided by ALD Ltd.:

Particulars	Budgeted	Actual
No. of Working days	25	26
Working hours per day	8	9
No. of Workers	150	132
Output per man-hour (in units)	$\frac{1}{2}$	$\frac{1}{2.2}$
Fixed Overheads	75,000	78,570
Variable Overheads	18,000	15,930

(7 Marks)



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4 (a) Oil Ltd. manufactures two products X and Y. Product X requires 5 hours to produce while 5 units of product Y can be produced in one hour. In July of 24 effective working days of 8 hours a day, 3000 units of X and 15,000 units of Y were produced. The company employs 100 workers in the production department to produce X and Y. There were 25 working days specified in the budget. Maximum possible working hours in July 24,000 hours.

Required: Calculate

- (a) Efficiency Ratio,
- (b) Activity Ratio,
- (c) Capacity Ratio,
- (d) Calendar Ratio,
- (e) Idle Capacity Ratio,
- (f) Standard Capacity Ratio and
- (g) Actual Usage of Maximum Capacity Ratio.

(6 Marks)

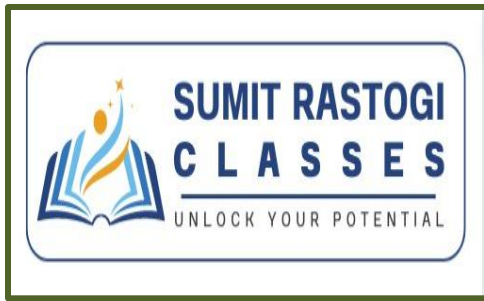
4 (b) Average of the Actual Fixed Overhead Rate per hour and Standard Fixed Overhead Rate per hour is 3.05. The difference between the Actual Fixed Overhead Rate per hour and Standard Actual Fixed Overhead Rate per hour is 0.10. Average of Standard Hours and Actual Hours is 28,350 hours.

Fixed Overhead Cost Variance is 11,070 (Adv), Standard Overhead Absorption Rate per hour is 4. Standard Overhead Absorption Rate per Unit is 8, Variable Overhead Cost Variance is 270 (Fav). Budgeted Production 15,000 Units, Actual Output per man-hour (in Units): (1/2.2)

Actual Variable Overhead Rate per Unit 1.98.

Calculate all the Overhead Variances.

(8 Marks)



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5 (a) SBZ Ltd., a manufacturing company using a standard costing system has the following production budget for November, 2022:

Product A = 20,000 units and Product B = 40,000 units

A standard hour represents 10 units of A and 8 units of B. The standard wage rate per hour is 0.50.

During the month 7500 hours were paid (@0.60 per hour) which included 350 unproductive hours due to unbudgeted holidays as also loss of production of 250 units of Product A due to machine breakdown.

Actual production for the month was 24,000 units of A and 38,000 units of B.

Calculate:

- (i) Direct labour rate variance.
- (ii) Direct labour idle time variance.
- (iii) Direct labour efficient variance.
- (iv) Direct labour total variance

(7 Marks)

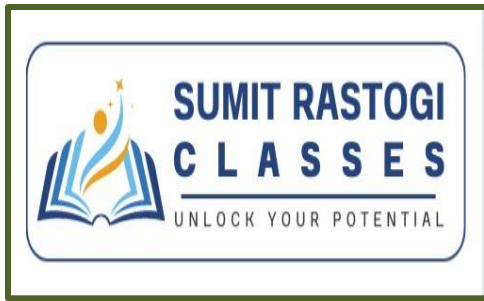
5 (b) TRIST LTD., a manufacturing Company, operating Standard Costing System has a Capacity of 720 machine hours per day of 25 days a month. The fixed overheads are budgeted ₹1,08,000 per month. The Standard time required to manufacture one unit of production is 4 hours.

In June 2021, the Company worked 24 days of 630 machine hours per day and produced 3980 units of output. The actual fixed overheads are ₹1,06,500.

Based on the above information you are required to answer the following questions:

- (i) What is the amount of Fixed overhead Efficiency Variance?
- (ii) What will be fixed overhead Capacity Variance?
- (iii) What will be the fixed overhead Calendar Variance?

(7 Marks)



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6 (a) The following information has been obtained from the records of PURNOMINA LTD., a manufacturing organization using the Standard Costing System for the month ended March 31, 2018:

Particulars	Budget	Actual
Fixed overheads (₹)	40,000	39,000
Working Days	20	21
Units per month	4,000	3800

You are required to calculate the following overhead cost variances:

- (i) Fixed overhead expenditure variance;
- (ii) Fixed overhead volume variance;
- (iii) Fixed overhead efficiency variance;
- (iv) Fixed overhead calendar variance;
- (v) Fixed overhead cost variance;

(7 Marks)

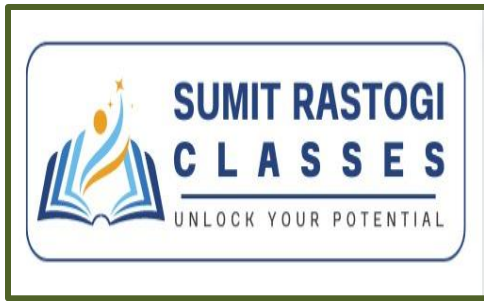
6 (b) X Ltd. uses Budgetary Control and Standard Costing System. The following data are available:

Products	Budgeted		Actual	
	Units	Sales value (₹)	Units	Sales value (₹)
A	100	1,200	100	1,100
B	50	600	50	600
C	100	900	200	1,700
D	75	450	50	300
	325	3,250	400	3,700

Calculate:

- (i) Sales Volume Variance
- (ii) Sales Price Variance
- (iii) Sales Variance

(7 Marks)



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7 (a) DASON Ltd., using standard costing system, has the following information for the month of September 2022.

Budgeted Fixed overheads for the month: ₹5,00,000. Overheads are recovered on the basis of standard machine hours. The company had budgeted for 1,00,000 machine hours for the month. During the month, the company used 1,10,000 machine hours while it should have used 95,000 machine hours for actual output. Actual Fixed Overheads for the month: ₹4,70,000.

Required: Fixed Overhead Variances

- (i) Fixed Overhead Volume Variance
- (ii) Fixed Overhead Efficiency Variance
- (iii) Fixed Overhead Cost Variance

(6 Marks)

7 (b) DOXTIN Ltd. is using a system of Standard Costing and has a manufacturing division which makes a product to which the following details relate:

Particulars		Per Unit (₹)
Direct Material	5 kg. at ₹20	100
Direct Labour	12 hours at ₹20	240
Variable overheads	12 hours at ₹10	120

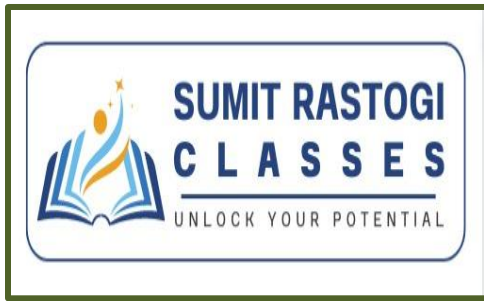
Relevant fixed overheads are based at ₹1,00,000 per month and planned output is 2,000 units per month. The selling price is ₹550 per unit. During a recent month when output was 1,800 units, the following actual costs were incurred:

Particulars	₹
Direct Materials (8,500 kg)	1,72,000
Direct Labour (20,000 hours)	4,20,000
Variable overhead	2,20,000
Fixed overhead	98,000
Total Cost	9,10,000
Profit	40,000
Sales value	9,50,000

Required:

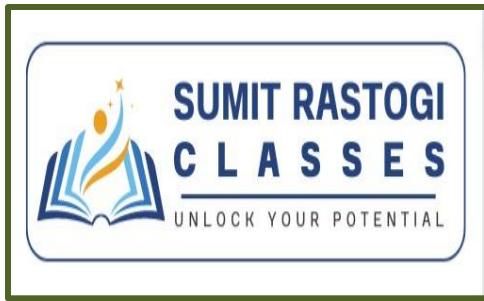
- (i) Analyses and calculate the variances which occurred during the month.
- (ii) Reconcile the actual profit with budgeted profit.

(8 marks)



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-
- 8 (a)** How are normal and abnormal idle time dealt with in Standard Costing in computing idle time Variance? (4 Marks)
- 8 (b)** Difference between Standard Costing and Budgetary Control. (5 Marks)
- 8 (c)** Advantages of Standard Costing. (5 Marks)



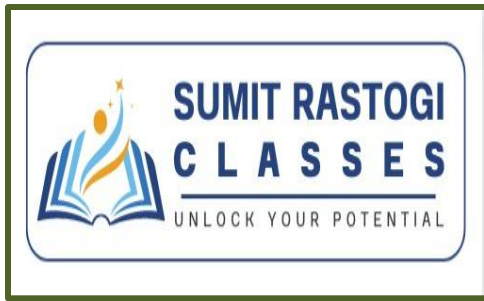
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SUGGESTED ANSWERS OF TEST PAPER-02

SECTION - A

ANS.1

- (i) (B) ₹100 Adverse
- (ii) (C) 4,200 units
- (iii) (A) ₹1,000 (A)
- (iv) (B) Management by Exception
- (v) (A) ₹28.00
- (vi) (D) 12500 hours
- (vii) (A) ₹320 (F)
- (viii) (A) the purchase of low-quality materials
- (ix) (B) 60,000
- (x) (B) Direct Material Mix Variance
- (xi) (D) 2450
- (xii) (A) ₹3,000 (Adv.)
- (xiii) (D) ₹27,000
- (xiv) (C) 94%
- (xv) (D) 37,500 (F)



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SECTION - B

ANS.2 (a)

Computation of Required values

Chemicals	Standard Quantity (Kg)	Standard Price per Kg (₹)	Standard Cost (₹)	Actual Quantity (Kg)	Actual Price per Kg (₹)	Actual Cost (₹)
A	5,368.42	40	2,14,737	5200	45	2,34,000
B	3,221.05	60	1,93,263	3600	61	2,19,600
C	2,147.37	95	2,04,000	1700	93	1,58,100
	10,736.84		6,12,000	10,500		6,11,700

Standard Quantity of Material for Actual Output = $10,200/95\% = 10,736.84$ kg

$$A = 10,736.84 \times 50\% = 5,368.42$$

$$B = 10,736.84 \times 30\% = 3,221.05$$

$$C = 10,736.84 \times 20\% = 2,147.37$$

Actual Price = Actual Cost/Actual Quantity

$$A = 2,34,000/5,200 = ₹45$$

$$B = 2,19,600/3,600 = ₹61$$

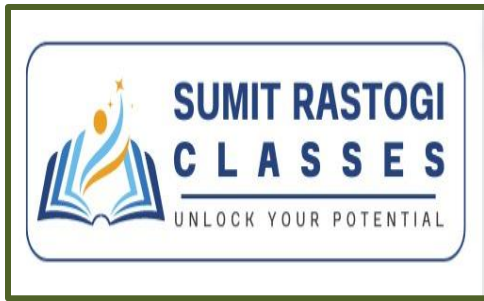
$$C = 1,58,100/1,700 = ₹93$$

Revised Standard Quantity = Actual Total Quantity divided in standard proportion

$$A = 10,500 \times 50\% = 5,250$$

$$B = 10,500 \times 30\% = 3,150$$

$$C = 10,500 \times 20\% = 2,100$$



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COMPUTATION OF VARIANCES:

1) **Total Material Cost Variances = Standard Cost - Actual Cost**
= 6,12,000-6,11,700 = ₹300 (Fav.)

2) **Materials Price Variance = (Std. Price - Actual Price) × Actual Quantity**

A: $[40 - 45] \times 5,200 = ₹26,000$ (Adv.)

B: $[60 - 61] \times 3,600 = ₹3,600$ (Adv.)

C: $[95 - 93] \times 1,700 = ₹3,400$ (Fav.)
= ₹26,200 (Adv.)

3) **Material Mix Variance = (Revised Standard Quantity - Actual Quantity) × Std. Price**

A: $[5,250-5,200] \times 40 = ₹2,000$ (Fav.)

B: $[3,150-3,600] \times 60 = ₹27,000$ (Adv.)

C: $[2,100-1,700] \times 95 = ₹38,000$ (Fav.)
= ₹13,000 (Fav.)

4) **Material Yield Variance = (Standard Quantity-Revised Standard Quantity) × Std. Price**

A: $[5,368.42-5,250] \times 40 = ₹4,737$ (Fav.)

B: $[3,221.05-3,150] \times 60 = ₹4,263$ (Fav.)

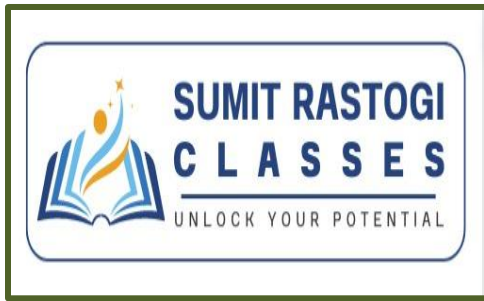
C: $[2,147.37-2,100] \times 95 = ₹4,500$ (Fav.)
= ₹13,500 (Fav.)

5) **Material Usage Variance = (Standard Quantity- Actual Quantity) X Std. Price**

A: $[5,368.42-5,200] \times 40 = ₹6,737$ (Fav.)

B: $[3,221.05-3,600] \times 60 = ₹22,737$ (Adv.)

C: $[2,147.37-1,700] \times 95 = ₹42,500$ (Fav.)
= ₹26,500 (Fav.)



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ANS 2 (b)

- Standard hours per unit = $4000/800 = 5$ hours
- Standard hours for actual production during the month:
- Actual production unit $\times$ standard hours per unit = $900 \times 5 = 4,500$ hours
- Standard fixed overhead rate per hour = $2,400/4000 = ₹0.60$
- **Recovered Fixed Overheads**
Standard fixed overhead rate per hour $\times$ Standard hours for actual production = $0.60 \times 4,500 = ₹2,700$
- **Standard Fixed Overheads**
Standard fixed overhead rate per hour $\times$ Actual hours
= $0.60 \times 4,200 = ₹2,520$
- **Revised Budgeted Fixed Overheads** = $2,400 \times 22/20 = ₹2,640$

COMPUTATION OF FIXED OVERHEAD VARIANCES:

A. Fixed Overhead Efficiency Variance:

= Recovered Fixed Overheads - Standard Fixed Overheads = $2,700 - 2,520 = ₹180$ (F)

B. Fixed Overhead Capacity Variance:

= Standard Fixed Overheads - Revised Budgeted Fixed Overheads = $2,520 - 2,640 = ₹120$ (A)

C. Fixed Overhead Calendar Variance:

= Revised Budgeted Fixed Overheads - Budgeted Fixed Overheads = $2,640 - 2,400 = ₹240$ (F)

D. Fixed Overhead Expenditure Variance:

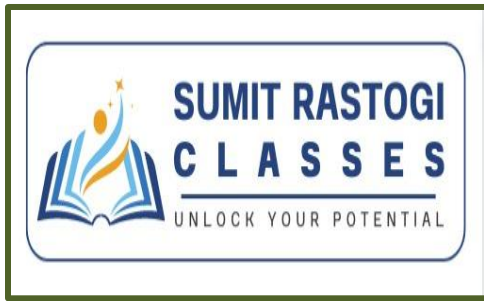
= Budgeted fixed overhead - Actual fixed overhead = $2,400 - 2,500 = ₹100$ (A)

E. Fixed Overhead Volume Variance:

= Recovered Fixed Overheads - Budgeted Fixed Overheads = $2,700 - 2,400 = ₹300$ (F)

F. Fixed Overhead Cost Variance:

= Recovered Fixed Overheads - Actual Fixed Overheads = $2,700 - 2,500 = ₹200$ (F)



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ANS 3 (a) Working Notes:

(i) **Actual Hours for each category = 200 - 20 = 180**

Total Actual Hours = $25 \times 180 = 4,500$ hours

(ii) **Revised Standard Hours =**

$4,500 \times 12/25 = 2,160$

$4,500 \times 8/25 = 1,440$

$4,500 \times 5/25 = 900$

(iii) **Let No. of Skilled workers be denoted by SK, Semi-Skilled by SSK and Unskilled by USK.**

$SK + SSK + USK = 25$

$2SSK + SSK + USK = 25$

$3SSK + USK = 25$

$USK = 25 - 3SSK$

Labour Mix Variance = (Revised Standard Hours - Actual hours) $\times$ Std. rate

Skilled = $(2,160 - AHSK) \times 75 = 1,62,000 - 75 \times AHSK$

Semi-Skilled = $(1,440 - AHSSK) \times 50 = 72,000 - 50AHSSK$

Unskilled = $(900 - AHUSK) \times 40 = 36,000 - 40 \times AHUSK = 10,800 (A)$

Therefore,

$1,62,000 + 72,000 + 36,000 - 75AHSK - 50AHSSK - 40AHUSK = -10,800$

$2,80,800 = 75 \times 180 \times SK + 50 \times 180 \times SSK + 40 \times 180 \times USK$

$2,80,800 = 13,500 SK + 9000 SSK + 7,200 USK$

$2,80,800 = 13,500 \times 2SSK + 9,000 SSK + 7,200 USK$

$2,80,800 = 36,000 SSK + 7,200 USK$

$2,80,800 = 36,000 SSK + 7,200 (25 - 3 SSK)$

$2,80,800 = 36000 SSK + 1,80,000 - 21,600 SSK$

$2,80,800 = 14,400 SSK + 1,80,000$

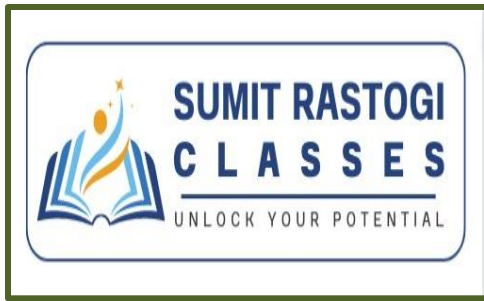
$14,400 SSK = 1,00,800$

$SSK = 7$

Semi-Skilled Workers = 7,

Skilled Workers = $7 \times 2 = 14$,

Unskilled workers = $25 - (3 \times 7) = 4$



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ANS 3 (b) Working Notes:

1. Budgeted Hours $= 25 \times 8 \times 150 = 30,000 \text{ Hours}$

Budgeted Output $= 30,000 \times \frac{1}{2} = 15,000 \text{ Units}$

Actual Hours $= 26 \times 9 \times 132 = 30,888 \text{ Hours}$

Actual Output $= 30,000 \times \frac{1}{2.2} = 14,040 \text{ units}$

Standard Hours $= 14,040 \times 2 = 28,080 \text{ hours}$

2. SR (VOH) $= 18,000/30,000 = 0.60 \text{ per hour}$

SR (FOH) $= 75,000/30,000 = 2.5 \text{ per hour}$

3. Recovered Fixed Overheads

$= \text{Standard fixed overhead rate per hours} \times \text{Standard hours for actual production}$

$= 2.5 \times 28,080 = ₹70,200$

Standard Fixed Overheads

$= \text{Standard fixed overhead rate per hour} \times \text{Actual hours}$

$= 2.5 \times 30,888 = ₹77,220$

Revised Budgeted Fixed Overheads

$= \text{Budgeted Fixed Overheads} \times \text{Budgeted Days/ Actual Days}$

$= 75,000 \times 26/25 = ₹78,000$

COMPUTATION OF FIXED OVERHEAD VARIANCES:

(i) Variable Overhead Efficiency Variance

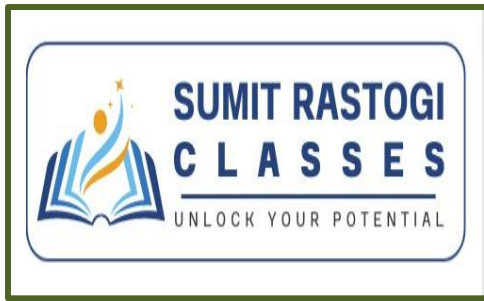
$= (\text{Standard Hours} - \text{Actual Hours}) \times \text{Std. Rate Per Hour} = (28,080 - 30,888) \times 0.60 = 1685 \text{ (A)}$

(ii) Fixed Overhead Efficiency Variance

$= \text{Recovered Fixed Overheads} - \text{Standard Fixed Overheads} = 70,200 - 77,220 = 7,020 \text{ (A)}$

(iii) Fixed Overhead Calendar Variance

$= \text{Revised Budgeted Fixed OH} - \text{Budgeted Fixed OH} = 78,000 - 75,000 = 3,000 \text{ (F)}$



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ANS 4 (a) Working Notes:

1. Standard Hours:

$$X = 3000 \times 5 = 15,000$$

$$Y = 15,000/5 = 3,000$$

Total 18,000 hours

2. Actual Hours = $24 \times 8 \times 200 = 19,200$ hours

3. Idle hours = Budgeted Hours - Actual hours = $24,000 - 19,200 = 4,800$ hours

4. Revised Budgeted Hours = $24,000 \times 24/25 = 23,040$ hours

5.

a) Efficiency Ratio = Standard Hours $\times 100$ / Actual hours
= $18,000 \times 100 / 19,200 = 93.75\%$

b) Activity Ratio = Standard hours $\times 100$ / Budgeted hours
= $18,000 \times 100 / 24,000 = 75\%$

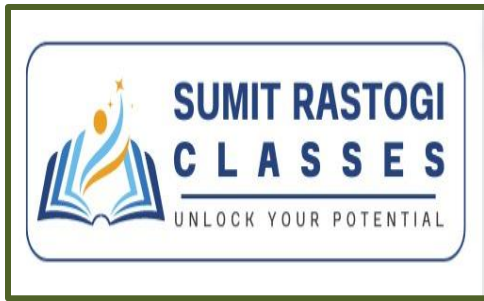
c) Capacity Ratio = Actual hours $\times 100$ / Budgeted hours
= $19,200 \times 100 / 24,000 = 80\%$

d) Calendar Ratio = Actual Days $\times 100$ / Budgeted Days
= $24 \times 100 / 25 = 96\%$

e) Idle Capacity Ratio = Idle Hours $\times 100$ / Budgeted hours
= $4,800 \times 100 / 24,000 = 20\%$

f) Standard Capacity Usage Ratio = Standard Hours $\times 100$ / Revised Budgeted Hours
= $18,000 \times 100 / 23,040 = 78.125\%$

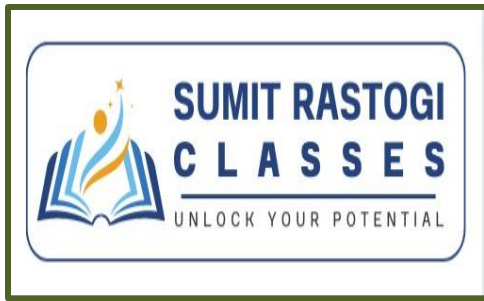
g) Actual Usage of Maximum Capacity Ratio = Actual Hours $\times 100$ / Revised Budgeted Hrs
= $19,200 \times 100 / 23,040 = 83.33\%$



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ANS 4 (b) Working Notes:

1. **Average Fixed OH rate per hour = $(AR + SR)/2$**
 $3.05 (AR+SR)/2$
 $AR+SR 6.10$
 $AR-SR = 0.10$
Solving both the equations, we get AR (Fixed). 3.10 Per hour
 $SR (Fixed) = 3.10 - 0.10 = 3.00$ per hour
2. **SR (Fixed + Variable) per Hour = ₹4**
 $SR (Fixed) \text{ per Hour} = ₹3$
 $SR (Variable) \text{ per hour} = ₹1$
3. **SR (Fixed + Variable) per unit = ₹8**
Therefore, Standard Hours per unit = $8/4 = 2$ hours per unit
 $SR (Fixed) \text{ per Unit} = ₹6$
 $SR (Variable) \text{ per unit} = ₹2$
Actual variable OH rate per unit = ₹1.98
4. **VOH Cost Variance = Std. Cost for Actual Output - Actual Cost for actual output**
 $270 = \text{Actual Output} \times (2 - 1.98)$
Actual Output = 13,500 units
5. **Actual Hours = $13,500/(1/2.2)$ = 29,700 hours**
Standard hours = $13,500 \times 2$ = 27000 hours
6. **Recovered Fixed Overheads**
Standard fixed overhead rate per hour $\times$ Standard hours for actual production
 $= 3 \times 27000 = ₹81,000$
7. **Standard Fixed Overheads = Standard fixed overhead rate per hour $\times$ Actual hours**
 $= 3 \times 29,700 = ₹89,100$
8. **Budgeted Fixed Overheads = Budgeted Production $\times$ Standard Fixed OH rate per unit**
 $= 15,000 \times 6 = ₹90,000$
9. **Actual Fixed Overheads = Actual hours $\times$ Actual Fixed OH rate per hour**
 $= 29,700 \times 3.10 = ₹92,070$



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COMPUTATION OF FIXED OVERHEAD COST VARIANCES:

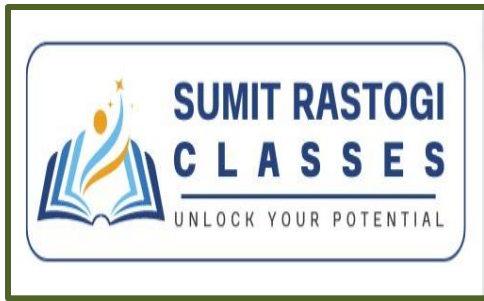
- A. Fixed Overhead Efficiency Variance:** = Recovered Fixed OH – Standard Fixed OH
= 81,000 - 89,100 = **₹8,100 (Adverse)**
- B. Fixed Overhead Capacity Variance:** = Standard OH - Budgeted Fixed OH
= 89,100 – 90,000 = **₹900 (Adverse)**
- C. Fixed Overhead Expenditure Variance:** = Budgeted Fixed OH - Actual Fixed OH
= 90,000 - 92,070 = **₹2,070 (Adverse)**
- D. Fixed Overhead Volume Variance:** = Recovered Fixed OH - Budgeted Fixed OH
= 81,000 – 90,000 = **₹9,000 (Adverse)**
- E. Fixed Overhead Cost Variance (Given):** = Recovered Fixed OH - Actual Fixed OH
= 81,000 – 92,070 = **₹11,070 (Adverse)**

ANS 5 (a)

- Standard hours for Actual output = $(24,000/10) + (38,000/8) = 7,150$ hours
- Actual Hours (Paid) = 7500
- Idle time = 350 hours + 25 hours for loss of production of A (taken at standard = 250/10)
- Actual hours (worked) = 7,500 - 375 = 7,125 hours

CALCULATION OF VARIANCES:

- (i) Labour Rate Variance** = (Std. Rate - Actual Rate) × Actual Hours Paid
= $[0.50 - 0.60] \times 7,500 = \text{₹}750$ (Adv.)
- (ii) Labour Idle Time Variance** = Idle Time Hours × Std. Rate
= $375 \times 0.50 = \text{₹}187.50$ (Adv.)
- (iii) Labour Efficiency Variance** = (Standard Hours - Actual Hours Worked) × Std. Rate
= $[7,150 - 7,125] \times 0.50 = \text{₹}12.50$ (Fav.)
- (iv) Direct Labour Total Variance** = Standard Cost - Actual Cost
= $(7,150 \times 0.50) - (7,500 \times 0.60) = \text{₹}925$ (Adv.)



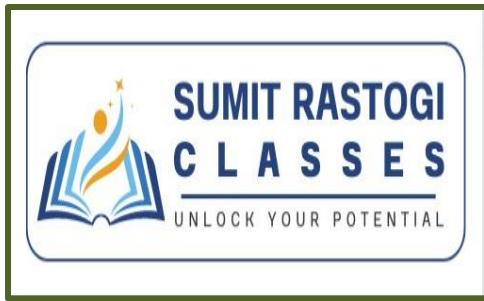
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ANS 5 (b)

- Budgeted Hours $= 720 \times 25 = 18,000$ hours
- Actual Hours $= 630 \times 24 = 15,120$ hours
- Standard hours per unit $= 4$ hours
- Standard hours for actual production during the month:
 $\text{Actual production unit} \times \text{standard hours per unit} = 3,980 \times 4 = 15,920$ hours
- Standard fixed overhead rate per hour $= 1,08,000 / 18,000 = ₹6$
- **Recovered Fixed Overheads**
 $= \text{Standard fixed overhead rate per hour} \times \text{Standard hours for actual production}$
 $= 6 \times 15,920 = ₹95,520$
- **Standard Fixed Overheads**
 $= \text{Standard fixed overhead rate per hour} \times \text{Actual hours}$
 $= 6 \times 15,120 = ₹90,720$
- **Revised Budgeted Fixed Overheads** $= 1,08,000 \times 24/25 = ₹1,03,680$

Computation of Fixed Overhead Cost Variances:

- (i) **Fixed Overhead Efficiency Variance:**
 $= \text{Recovered Fixed Overheads} - \text{Standard Fixed Overheads}$
 $= 95,520 - 90,720$
 $= ₹4,800 \text{ (Favourable)}$
- (ii) **Fixed Overhead Capacity Variance:**
 $= \text{Standard Fixed Overheads} - \text{Revised Budgeted Fixed Overheads}$
 $= 90,720 - 1,03,680$
 $= ₹12,960 \text{ (Adverse)}$
- (iii) **Fixed Overhead Calendar Variance:**
 $= \text{Revised Budgeted Fixed Overheads} - \text{Budgeted Fixed Overheads}$
 $= 1,03,680 - 1,08,000$
 $= ₹4,320 \text{ (Adverse)}$



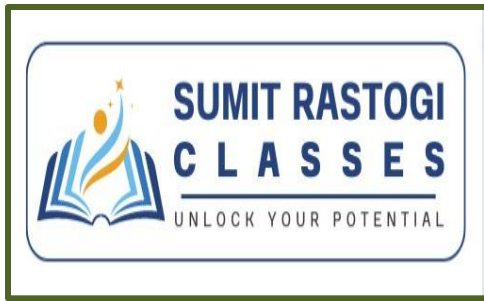
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ANS 6 (a)

- Standard fixed overhead rate per unit = $40,000/4,000 = ₹10$
- Standard units = 3,800 (same as actual)
- Recovered Fixed Overheads
= Standard fixed overhead rate per unit x Standard units for actual production
= $10 \times 3,800 = ₹38,000$
- Standard Fixed Overheads
= Standard fixed overhead rate per units $\times$ Actual units
= $10 \times 3,800 = ₹38,000$
- Revised Budgeted Fixed Overheads = $40,000 \times 21/20 = ₹42,000$

Computation of Fixed Overhead Cost Variances:

- (i) **Fixed Overhead Expenditure Variance:**
Budgeted Fixed Overhead - Actual Fixed Overhead
= $40000 - 39000 = ₹1,000$ (Fav.)
- (ii) **Fixed Overhead Volume Variance:**
Recovered Fixed Overheads - Budgeted Fixed Overheads
= $38,000 - 40,000 = ₹2,000$ (Adv.)
- (iii) **(Fixed Overhead Efficiency Variance:**
Recovered Fixed Overheads - Standard Fixed Overheads
= $38,000 - 38,000 = \text{Nil}$
- (iv) **Fixed Overhead Calendar Variance:**
Revised Budgeted Fixed Overheads - Budgeted Fixed Overheads
 $42,000 - 40,000 = ₹2,000$ (Fav.)
- (v) **Fixed Overhead Cost Variance:**
Recovered Fixed Overheads - Actual Fixed Overheads
= $38,000 - 39,000 = ₹1,000$ (Adverse)
- (vi) **Fixed Overhead Capacity Variance:**
Standard Overheads - Revised Budgeted Fixed Overheads
= $38,000 - 42,000 = ₹4,000$ (Adv.)



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ANS 6 (b)

(i) Budgeted Sales Price = Sales Value/Units

Budgeted Sales Price:

$$A = 1,200/100 = ₹12$$

$$B = 600/50 = ₹12$$

$$C = 900/100 = ₹9$$

$$D = 450/75 = ₹6$$

Actual Sales at Budgeted Price:

$$A = 12 \times 100 = ₹1200$$

$$B = 12 \times 50 = ₹600$$

$$C = 9 \times 200 = ₹1800$$

$$D = 6 \times 50 = ₹300$$

$$\text{Total} = ₹3900$$

Calculation of Variances:

(i) Sales Volume Variance

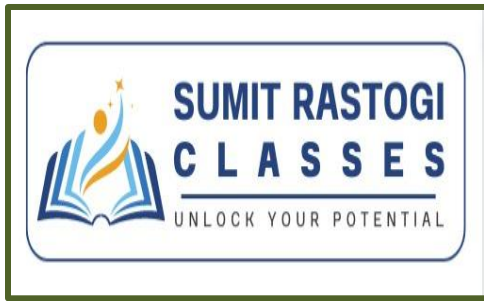
$$\begin{aligned} &\text{Actual Sales at Budgeted Price} - \text{Budgeted Sales} \\ &= 3900 - 3,150 = \mathbf{₹750 \text{ (Fav.)}} \end{aligned}$$

(ii) Sales Price Variance

$$\begin{aligned} &\text{Actual Sales} - \text{Actual Sales at Budgeted Price} \\ &= 3.7 - 3.9 = \mathbf{₹200 \text{ (Adv.)}} \end{aligned}$$

(iii) Sales Variance

$$\begin{aligned} &\text{Actual Sales} - \text{Budgeted Sales} \\ &= 3,700 - 3,150 = \mathbf{₹550 \text{ (Fav.)}} \end{aligned}$$



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ANS 7 (a)

- Standard hours for actual production during the month = 95,000 hours
- Budgeted Hours = 1,10,000 hours
- Standard fixed overhead rate per hour = $5,00,000 / 1,00,000 = ₹5$
- **Recovered Fixed Overheads**
Standard fixed overhead rate per hour $\times$ Standard hours for actual production
 $= 5 \times 95,000 = ₹4,75,000$
- **Standard Fixed Overheads**
Standard fixed overhead rate per hour $\times$ Actual hours
 $= 5 \times 1,10,000 = ₹5,50,000$

COMPUTATION OF FIXED OVERHEAD COST VARIANCES:

(i) Fixed Overhead Volume Variance

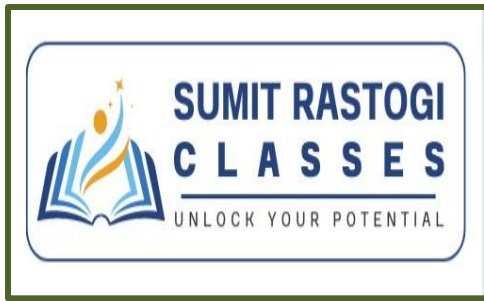
Recovered Fixed Overheads - Budgeted Fixed Overheads
 $= 4,75,000 - 5,00,000$
 $= ₹25,000 \text{ (Adverse)}$

(ii) Fixed Overhead Efficiency Variance:

Recovered Fixed Overheads - Standard Fixed Overheads
 $= 4,75,000 - 5,50,000$
 $= ₹75,000 \text{ (Adverse)}$

(iii) Fixed Overhead Cost Variance

Recovered Fixed Overheads - Actual Fixed Overheads
 $= 4,75,000 - 4,70,000$
 $= ₹5,000 \text{ (Favourable)}$



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ANS 7 (b)

CALCULATION OF VARIANCES:

MATERIAL VARIANCES:

Standard Quantity for Actual Output = $1,800 \times 5 = 9,000$ kg

Standard Price = ₹20/kg

Actual Quantity = 8,500 kg

- **Material Cost Variances = Standard Cost - Actual Cost**
 $= (9,000 \times 20) - 1,72,000 = \text{₹}8,000 \text{ (F)}$
- **Materials Price Variance = (Std. Price - Actual Price) $\times$ Actual Quantity**
 $= 20 \times 8,500 - 1,72,000 = \text{₹}2,000 \text{ (A)}$
- **Material Usage Variance = (Standard Quantity - Actual Quantity) $\times$ Std. Price**
 $= (9,000 - 8,500) \times 20 = \text{₹}10,000 \text{ (F)}$

LABOUR VARIANCES:

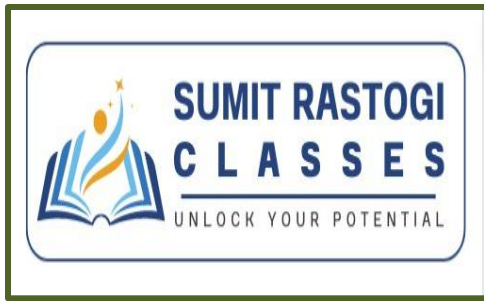
Standard Hours for Actual Output = $1,800 \times 12 = 21,600$ hours

Standard Rate = ₹20/hour

Actual hours = 20,000 hours

Actual Rate = $4,20,000 / 20,000 = \text{₹}21/\text{hour}$

- **Labour Cost Variances = Standard Cost - Actual Cost**
 $= (21,600 \times 20) - 4,20,000 = \text{₹}12,000 \text{ (F)}$
- **Labour Rate Variance = (Std. Rate - Actual Rate) $\times$ Actual Hours**
 $= (20 - 21) \times 20,000 = \text{₹}20,000 \text{ (A)}$
- **Labour Efficiency Variance = (Standard Hours - Actual Hours) $\times$ Std. rate**
 $= [21,600 - 20,000] \times 20 = \text{₹}32,000 \text{ (F)}$



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VARIABLE OVERHEAD VARIANCES:

Standard Hours for Actual Output = $1,800 \times 12 = 21,600$ hours
Standard Rate = ₹10/hour
Actual hours = 20,000 hours
Actual rate = $2,20,000/20,000 = ₹11/\text{hour}$

- **Variable Overhead Expenditure Variance** = (Std. rate - Actual rate) $\times$ Actual hours
= $[10 - 11] \times 20,000 = ₹20,000$ (A)
- **Variable Overhead Efficiency Variance** = (Standard hours - Actual hours) $\times$ Std. rate
= $[21,600 - 20,000] \times 10 = ₹16,000$ (F)
- **Variable Overhead Cost Variance** = Standard cost - Actual cost
= $(21,600 \times 10) - 2,20,000 = ₹4,000$ (A)

FIXED OVERHEAD VARIANCES

Standard hours for actual production during the month = 21,600 hours
Budgeted Hours = $2,000 \times 12 = 24,000$ hours
Standard fixed overhead rate per hour = $1,00,000/24,000 = ₹4.16667$

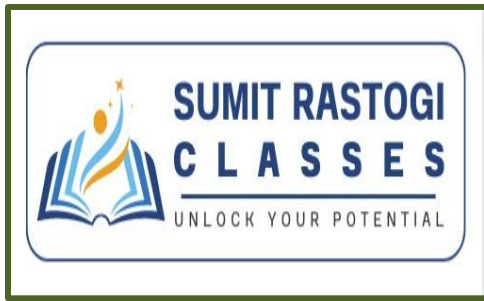
Recovered Fixed Overheads

= Standard fixed overhead rate per hour $\times$ Standard hours for actual production
= $4.16667 \times 21,600 = ₹90,000$

- **Fixed Overhead Expenditure Variance:** Budgeted Fixed OH - Actual Fixed OH
= $1,00,000 - 98,000 = ₹2,000$ (F)
- **Fixed Overhead Volume Variance:** = Recovered Fixed OH - Budgeted Fixed OH
= $90,000 - 1,00,000 = ₹10,000$ (A)
- **Fixed Overhead Cost Variance:** Recovered Fixed OH - Actual Fixed OH
= $90,000 - 98,000 = ₹8,000$ (A)

SALES VARIANCES:

- **Sales Value variance** = Actual Sales - Standard Sales
= $9,50,000 - (2,000 \times 550) = ₹1,50,000$ (A)
- **Sales Price Variance** (Actual Price - Std. Price) $\times$ Actual Quantity
= $9,50,000 - (550 \times 1,800) = 40,000$ (A)
- **Sales Volume Variance** = (Actual Quantity - Std. Quantity) $\times$ Std. Price
= $(1,800 - 2,000) \times 550 = ₹1,10,000$ (A)



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Reconciliation of Actual Profit with Budgeted Profit:

Budgeted Profit (2,000 units):

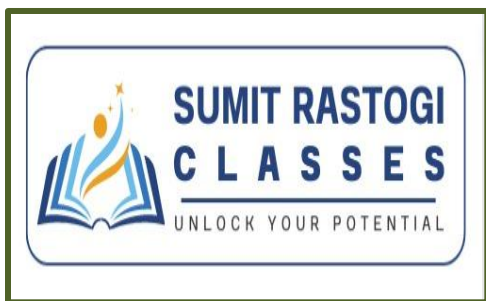
Sales (550x2,000)	11,00,000
- Variable Cost (460 x 2,000)	9,20,000
- Fixed Cost	<u>1,00,000</u>
Profit	80,000

Reconciliation Statement

Particulars	Amount (₹)
Standard Profit = $80,000 \times 1,800/2,000$	72,000
Variances:	
Material Variances:	
• Price Variance	(2,000)
• Usage Variance	10,000
Labour Variances:	
• Rate Variance	(20,000)
• Efficiency Variance	32,000
Variable Overhead Variances:	
• Expenditure	(20,000)
• Efficiency	16,000
Fixed Overhead Variances:	
• Expenditure Variance	2,000
• Volume Variance	(10,000)
Sales Variances:	
• Price Variance	(40,000)
Actual Profit	40,000

ANS 8 (a)

- In standard costing, standard labour time is fixed after taking into account the normal idle time.
- However, if the actual idle time is more than this normal level, it is considered as abnormal idle time and is therefore shown as variance which is always adverse.
- It indicates the loss caused due to abnormal idle time.
- Since we need to exclude the influence of the actual rate, we have idle time variance = Abnormal idle time $\times$ standard rate.



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ANS 8 (b) DIFFERENCE BETWEEN STANDARD COSTING & BUDGETARY COSTING

STANDARD COSTING	BUDGETARY COSTING
Standards are based on technical assessments.	Budgets are based on past actuals adjusted to future trends.
Standards are mainly for production expenses i.e., elements of cost	Budgets are compiled for sales, production, expenses, Profit, capital expenditure.
Standard cost is projection of cost accounts.	Budgets are projects of financial accounts
Standards are minimum targets which are to be attained.	Budgets are the maximum limits of expenses above which expenditure should not be incurred.
Standards are pointers to further improvements.	Budgets are indices, adherence to which keeps a business out of problems.
Variances are accounted for in the books.	Variance analysis is only a statistical data.
Standards re expressed per unit of production.	Budgets are expressed in totals of amounts.
Detailed analysis is needed in case of variances, whether they are favourable or unfavourable.	No further analysis is required if costs are within the budget.

ANS 8 (c) ADVANTAGES OF STANDARD COSTING:

1. Established yard-sticks against which the efficiency of actual performances is measured
2. The Standards provide incentive and motivation to work with greater effort and vigilance for achieving the standard
3. At the very stage of setting the standards, simplification and standardization of products, methods and operations are affected and waste of time and materials is eliminated
4. Costing Procedures are simplified. There is a reduction in Paper work
5. Standard Costing is an exercise in planning.
6. Standard Costing System facilitates delegation of authority and fixation of responsibility for each department or individual
7. Enables Variance Analysis and the Reporting is based on the principles of Management by Exception
8. Optimizes the use of plant capacities, current assets and working capital
9. Standard Costing facilitates the integration of accounts.