Standard costing & Variance Analysis

The word standard means a bench mark. The standard cost is a pre-determined cost which determines in advance what each product or service should cost under given circumstances.

"The technique of using standard costs for the purpose of cost control is known as standard costing."

Analysis of variances:

The object of standard costing is to exercise cost control and cost reduction. The performance targets with actual performances will enable with control system. The management by exception is possible through the efficiency in use of material and labour. The deviations between standard cost, profits or sales and actual costs, profits or sale respectively will be known as variances.

The variance may be favourable or unfavorable (Adverse). If the actual cost is less than the standard cost it is as known as favourable and actual profit or sales are more than the standard profit or sales then it is also indicated as favourable. If actual cost is more than the standard cost and actual profit or sales is less than the standard profit or sales then it should be indicated as unfavorable which is adverse. It should be denoted with the letter (A). The favourable answer should be denoted with the letter (F).

Classification of variances:-

The variance may be classified into following categories:

- Direct Material variance
- Direct labour Variance
- Sales or Profit Variance
- Over head cost variance

Direct material variance:

It is also known as material cost variance. It is a difference between the standard cost of materials that should have been incurred for manufacturing the actual output and cost of materials that has been actually incurred. It is also sub divided into the following:

a) Material cost variance (MCV)

b) Material price variance (MPV)

c) Material usage variance (MUV)

d) Material mix variance (MMV)

e) Material yield variance (MYV)

MCV= (SQ×SP)- (AQ×AP)

MPV=AQ(SP-AP)

MUV=SP(SQ-AQ)

MMV=SP(Revised quantity - Actual quantity)

(Revised Qty=(St.Qty/Total St.Qty)×Total actual Qty)

MYM= St. Yield Rate(Actual Yield - Revised St. Yield for actual input)

(St. Yield Rate= Total St. Cost/ St. Output)

Whereas

SQ= Standard quantity

AQ=Actual quantity

SP=Standard price

AP=Actual price

Some practical solutions in Material Variance

Q 1. A manufacturing concern which has adopted standard costing furnishes the following information :
Standard : Materials for 70 kgs. of finished product 100 kgs., Price of materials Rs 1 per kg.
Actual :Output 2,10,000 kgs.
Material used 2,80,000 kgs.
Cost of materials Rs 2,52,000
Calculate : (*a*) Material Usage Variance ; (*b*) Material Price Variance ; (*c*) Material Cost Variance.

Sol)
(*a*) Material Usage Variance
St. P (St.Q – AQ)
For 70 kgs. of finished output, material allowed = 100 kgs.
For 2,10,000 kgs. of actual output, material allowed =100/70× 2,10,000 kgs. = 3,00,000 kgs.

1(3,00,000 – 2,80,000) = Rs. 20,000 Favourable.

***b*) Material Price Variance**
AQ (St.P – AP)
Actual Price per kg. =Cost of material/Qty. of materials used =₹ 2,52,000/2,80,000 = ₹ 0.90
2,80,000 (1 – 0.90) = R 28,000 Favourable.

(*c*) Material Cost Variance
(St.Q × St.P) – (A. Qty × AP)
(3,00,000 × 1) – (2,80,000 × 0.90)

3,00,000 – 2,52,000 = ₹48,000 Favourable.

Q 2. Calculate Material Price Variance, Material Usage Variance and Material Cost Variance from the following information :

Quantity of materials purchased 3,000 units ; Value of materials purchased ₹ 14,000 ; Standard quantity of material required per ton of finished product 20 units ; Standard price of material R 5 per unit ; Opening stock of materials 100 units ; Closing stock of materials 600 units; Finished product manufactured 100 tonnes

Sol)

a)Material Price Variance = AQ (SP – AP)
Actual Quantity = Opening Stock + Purchases – Closing Stock
= 100 units + 3,000 units – 600 units = 2,500 units

ButOut of of 2,500 units, 100 units are Opening stock therefore 2,400units(2500-100) have been consumed out of purchases

a)Material Price Variance for 2,400 units (Actual Quantity) consumed out of purchases

Actual Price= Rs 14,000/3,000 units=4.665
2,400 units [5 –4.666]
= 2,400 units×0.3333= 799.92»₹ 800 **(F)**.
.
b)Material Usage Variance = SP (SQ – AQ)
(St. Qty for 100 tonnes of finished product @ 20 units per ton = 2,000 units)
[100×20=2000] ⇨

Therefore;

= Rs 5 (2,000 units – 2,500 units) = Rs 2,500 Adverse**(A)**

(c) Material Cost Variance = St. Cost of Material – Actual Cost of Material

= (SQ×SP) – (AQ × AP)
= (2,000 units × R 5) – ((100 units × R 5) + (2,400 units ×4.6667)) = R 10,000 – (R 500 + R 11,200)
= R 10,000 – R 11,700 = R 1,700 Adverse**(A).**

Note: In above bit 100 units are multiplied with 5/- because 100 units are opening stock and which should be multiply with standard price.

Material Mix Variance

A mix variance will result when materials are not actually placed into productions as in the same ratio. It explains the variance due to the difference between standard & actual composition of a mix variance.

Q 4. From the following information calculate Materials Mixture Variance :

Materials	*Standard Quantity units*	*Actual Quantity units*	*Standard Price per unit*	*Actual Price per unit*
A	100	150	R 5	R 5.50
B	200	250	R 6	R 6.00
C	300	400	R 4	R 3.50

Due to shortage of B, it was decided to reduce consumption of B by 5% and increase that of A by 10%.

Sol)
Revised Standard Mix is :

Material A : 100 +(100×10 %) =100 +10= 110 units
Material B : 200 –(200×5%)= 200-10 = 190 units
Material C : 300 units

Material Mix Variance :

Material	SQ	SP	SC.	AQ	AP	AC	RQ
A	110 units	5	550	150	5.50	825	146.67
B	190 units	6	1140	250	6.00	1500	253.33
C	300 units	4	1200	400	3.50	1400	400
Total	600units			800units			

Revised Quantity(RQ)= Each Standard Qty/Total Standard Quantity× Total Actual Qty

A=110/600×800=146.67
B=190/600×800=253.33
C=300/600×800=400

MMV=SP(Revised quantity - Actual quantity)

A=5(146.67-150)=- 16.65(A)

B=6(253.33-250)= 19.98(F)

C=4(400-400) = 0

3.33(F)

Q 6. From the data given below, calculate— (*a*) Material cost variance; (*b*) Material price variance; (*c*) Material usage variance; and (*d*) Material mix variance.

Product	*St. Qty* (Units)	*St. Price* (R)	*Actual Qty* (Units)	*Actual Price* (R)
X	**1,050**	**2.00**	**1,100**	**2.25**
Y	**1,500**	**3.25**	**1,400**	**3.50**
Z	**2,100**	**3.50**	**2,000**	**3.75**

Sol)

Material	SQ	SP	SC.	AQ	AP	AC	RQ	Revised St.Cost of St. Mix RQ×SP
X	1050 units	2.00	2,100	1,100	2.25	2475	1016. 13	1016. 13×2=2032.26
Y	1500 units	3.25	4875	1,400	3.50	4900	1451.61	1451.61×3.25= 4717.7325
Z	2,100 units	3.50	7350	2,000	3.75	7500	2032.25	2032.25×3.50=7112.875
Total	4650units		14,325	4500units		14,875		13862.87

(1) Material Cost Variance

MCV = Standard Cost of Standard Mix – Actual Cost of Actual Mix

X=(1050×2)-(1,100×2.25)= 2,100-2475= -375(A)
Y=(1500×3.25)-(1,400×)=4875-4900= -25(A)
Z=(2,100 ×3.50)-(2,000×3.75)= 7350-7500= -150(A)

-550(A)

(2) Material Price Variance

MPV = AQ(SP – AP)
Material X = 1,100 kg. ×(R 2 – R 2.25) = 275 (A)
Material Y = 1,400 kg. × (R 3.25 – R 3.50) = 350 (A)
Material Z = 2,000 kg. × (R 3.50 – R 3.75) = 500 (A)

Total Material Price Variance 1,125(A)

(3) Material Usage Variance

MUV = Standard Price (Standard quantity – Actual Quantity)
Material X = 2.00 (1,050 – 1,100) = R 100 (A)
Material Y = 3.25 (1,500 – 1,400) = R 325 (F)
Material Z = 3.50 (2,100 – 2,000) = R 350 (F)

Total Material Usage Variance = 555(F)

(4) Material Mix Variance (MMV)=SP(Revised quantity - Actual quantity)

(Revised Qty=(St.Qty/Total St.Qty)×Total actual Qty)

Material X(RQ) = 1,050/4650×4500 = 1016. 13
Material Y(RQ) = 1,500/4650×4500 = 1451.61
Material Z (RQ) = 2,100/4650× – 4500 = 2032.25

MMV:
Material X=2(1016. 13-1,100) =-167.73(A)
Material Y=3.25(1451.61-1,400=167.73(F)
Material Z=3.5(2032.25-2000)= 112.87(F)

Total Material Mix Variance =112.87 (F)

(Or)

Material Mix Variance

MMV =Total Weight of Actual Mix

Total Weight of Standard Mix × Standard Cost of Standard Mix –

(St. Cost of Actual Mix)=4,500/4,650×14,325 – [(2 × 1,100) + (3.25×1,400) + (350 × 2,000)]

= 13,863 – 13,750

= 113 Favourable

Material yield variance:

It is a part of the material usage variance which is due to the difference between the standard yield specified interns of actual output and Actual yield obtained.

Q 7. A factory manufactures a chemical product with three ingredient chemicals A, B and C as per standard data given below :

Chemical	Percentage of total input	Standard Cost per kg. (R)
A	50%	40
B	30%	60
C	20%	95

Note : There is a process loss of 5% during the course of manufacture.
The Management gives the following details for a certain week :

Chemical	Consumed Quantity purchased and issued	Actual Cost (R)
A	5,200 kgs.	2,34,000
B	3,600 kgs.	2,19,600
C	1,700 kgs.	1,58,100

Output of finished product : 10,200 kg.
Calculate all the relevant variances.

Sol)

Material	SQ	SP	SC.	AQ	AP	AC	RQ	Revised St.Cost of St. Mix (RQ×SP)
A	5369kgs	40	214760	5200kgs	45	234000	5250kgs	5250×40=210000
B	3221kgs	60	193260	3600kgs	61	219600	3150kgs	3150×60=189000
C	2147kgs	95	203965	1700 kgs	93	158100	2100kgs	2100×95=199500
Total	10737kgs		611985	10500kgs		611700		598500

Working Note :

Input is 95% that is 100% - 5% (Normal Loss)
Output (100%-5%=95%)= 10,200 kg.
Therefore;
St. Qty of(100%) Raw Material required to produce =10,200 × 100/95= 10,737 kgs.
Standard Mix of A, B, C is 50%, 30%, and 20% respectively of 10,737 kgs.

A=10,737×50%=5368.5kgs

B=10,737×30%=3221. 1kgs

C=10,737×20%=2147.4kgs

AP:

A=2,34,000/5200kgs=Rs.45

B=2,19,600/3600kgs=Rs61

C=1,58,100/1,700kgs=Rs93

(Revised Qty=(St.Qty/Total St.Qty)×Total actual Qty)

A=5368.5kgs/10737kgs×10500kgs=5250kgs

B=3221. 1kgs/10737kgs×10500kgs=3150kgs

C=2147.4kgs/10737kgs×10500kgs=2100kgs

(1) Material Cost Variance

MCV = Standard Cost of Standard Mix – Actual Cost of Actual Mix

= R 6,11,985 – R 6,11,700

= R 285 Favourable

(Rounded off to R 300)

(2)**Material Price Variance**

MPV = Actual Quantity (Standard Price – Actual Price)

Material A = 5,200 kg. × (R 40 – R 45) = R 26,000 (A)

Material C = 1,700 kg. × (R 95 – R 93) = R 3,400 (F)

Total Material Price Variance = R 26,000 + R 3,600 – R 3,400

= R 26,200 (A)

Material B = 3,600 kg. × (R 60 – R 61) = R 3,600 (A)

(3) Material Usage Variance

MUV = Standard Price (Standard quantity – Actual Quantity)
Material A = 40 (5,369 – 5,200) = R 6,760 (F)
Material B = 60 (3,221 – 3,600) = R 22,740 (A)
Material C = 95 (2,147 – 1,700) = R 42,465 (F)
Total Material Usage Variance = R 6,760 – R 22,740 + R 42,465
= R 26,485 or 26,500 (Rounded off) Favourable

(4) Material Mix Variance

MMV = Standard cost of standard Mix – Standard cost of Actual Mix)
= R 6,11,985 – R 5,85,500
= R 26,485 or 26,500 (Rounded off) Favourable

(5) Material Yield Variance

MYV = Standard Price (Standard Quantity – Revised Standard Quantity)
Material A = 40 × (5,369 – 5,250) = Rs 4,760 Favourable
Material B = 60 × (3,221 – 3,150) = Rs 4,260 Favourable
Material C = 95 × (2,147 – 2,100) = Rs 4,465 Favourable
Total Material Mix Variance = 4,760 + 4,260 + 4,465
= R 13,485 or 13,500 (Rounded off) Favourable.

Labour Variance

Labour Variance arises when actual labour costs are different from standard labour costs. Labour Variances involve calculation of labour cost variance, labour rate variance, labour time variance, Idle time variance and labour mix or gang composition variance.

Labour cost variance:

It is the difference between standard direct wages specified for the output achieved and actual Direct wages

LCV= (St. Hour × St. Rate) - (Actual hour × Actual rate)

LCV= (SH×SR)- (AH× AR)

Labour rate Variance:

It is the variance arises due to the change in specified wage rate

LRV= AH(SR-AR)

Labour time variance or Efficiency variance:

It explains the variance in labour cost on account of standard labourer hours specified and actual number of hours worked by the labourer.

LRV or LEV = SR(SH - AHW)

Idle time variance:

It is the time for which a worker is paid but during which he doesn't work due to power failure, shortage of materials, break down of machinery are some of the reasons which lead to idle time. It will be always be in Adverse or unfavorable as it is represents loss of time. And denoted with the letter "A"

Idle y variance (ITV) = SR(AH - AHW)

Whereas,

SR : Standard rate

AR: Actual rate

SH: standard hours

AH: Actual hours

AHW: Actually hours worked (AH- Loss time)

Labour Mix Variance:

It results if there is a change in the composition of the team with interested in given work

LMV= SR(RH - AHW)

Revised Hours (RH) : (Each SH/ Total SH× AHW)

: **Labour yield variance**

Output what so obtained is not only on the account. If material used but also influenced effeciency of the labour. This results to know whether the output is accordingly to the standard specified or not.

LYV= SYR[Actual yield - Revised Std. Yield]

Std. Yield Rate (SYR)= Total RH × SR/ Revised Std Yield

LCV =LRV +LEV or LTV + ITV

LCV = LMV + LYV

Q 11. A gang of workers normally consists of 30 men, 15 women and 10 boys.
They are paid at standard hourly rates as under :
Men R 0.80 ; Women R 0.60 ; Boys R 0.40.
In a normal working week of 40 hours, the gang is expected to produce 2,000 units of output. During the week ended 31st December, 2015 the gang consisted of 40 men, 10 women and 5 boys. The actual wages paid were @ R 0.70, R 0.65 and R0.30 respectively. 4 hours per worker
were lost due to abnormal idle time and 1,600 units were produced.
Calculate all labour variances**.**

Sol)
Standard wages for 2,000 units of output :

	Hours	Rs
30 men @ R 0.80 for 40 hours each [(30×40)×0.80)]	1,200	960
15 women @ R 0.60 for 40 hours each[(15×40×0.60)]	600	360
10 boys @ R 0.40 for 40 hours each[(10×40)×0.40)]	400	160
	2,200	1,480

Standard wages for 2,000 units of standard output 1,480
∴ Standard wages for 1,600 units of actual output (Rs 1,480/2,000 × 1,600)= R 1,184
Actual wages for 1,600 units of output :

	Hours	Rs
40 men @ R 0.70 for 40 hours[(40×40×0.70)]	1,600	1,120
10 women @ R 0.65 for 40 hours [(10×40×0.65)]	400	260
5 boys @ R 0.30 for 40 hours[(5×40×0.30)]	200	60
	2,200	1,440

Variances :

(i) Calculation of Labour Cost Variance

Standard Wages for Actual Output – Actual Wages

R 1,184 – R 1,440 = R 256 Adverse

(ii) Labour Rate Variance

Actual Hours (Standard Rate – Actual Rate)

Men : 40 men @ 40 hours each=1600 (80 Paise – 70 Paise) = 160(F)

Women : 10 women @ 40 hours each=400 (60 Paise – 65 Paise) = 20 (A)

Boys : 5 boys @ 40 hours each=200 (40 Paise – 30 Paise) = 20 (F)

[160(F)-20(A)+20(F)] 160 Favourable

(iii) Labour Efficiency Variance

Standard Rate (Standard Time for Actual Output – Actual Hoursworked).

Men : R 0.80 [(1,200/2,000 × 1,600 hrs). – 1,440 hrs.]= R 384 Adverse

For standard output of 2,000 units manhours allowed are 1,200 (*i.e.* 30 men for 40 hours each).

Therefore, for actual output of 1,600 units standard time is

1,200/2,000 × 1,600 hrs.=960hrs

Actual hours worked(AHW)) = Actual number of men worked × Actual time utilised on production per man

= 40 (40 hrs. – 4 hrs. idle time)

= 40 × 36 = 1,440 hrs.

Women : R 0.60 (600/2,000 × 1,600 hrs. – 360 hrs.)= Rs 72 Favourable

Boys : R 0.40 (400/2,000 × 1,600 hrs. – 180 hrs.)= Rs 56 Favourable

Total Labour Efficiency Variance = – Rs 384 + R 72 + R 56

= Rs 256 Adverse.

(iv) Gang Composition Variance or Labour Mix. Variance

Total Actual Time

Total St. Time × Standard Wages for St. Time – St. Wages for Actual Labour Mix

2,200 hours

2,200 hours × R 1,480 – (40 men @ 80 Paise for 40 hours + 10 women

@ 60 Paise for 40 hours + 5 boys @ 40 Paise for 40 hours)

= R 1,480 – R 1,600 = R 120 Adverse

(v) Labour Idle Time Variance

Idle Time × St. Rate

Men : 160 hrs. × R 0.80 = R 128 Adverse

(Idle Time = 40 men have wasted 4 hours each)

Women : 40 hrs. × R 0.60 = R 24 Adverse

(Idle Time = 10 women have wasted 4 hours each)

Boys : 20 hrs. × R 0.40 = R 8 Adverse

(Idle Time = 5 boys have wasted 4 hours each)

Total Idle Time Variance = – R 128 – R 24 – R 8 = R 160 Adverse

Over head variance:

It refers to the difference between the standard over head cost for actual output and the over head incurred.

Total over head variance: (TOV)= (St. Hour for Actual output × St. Rate per hour) - Actual over head incurred

Over head Expenditure variance (OEV)= (Budgeted over head cost - Actual over head cost)

Over head volume variance (OVV) = St. Over head rate per unit (Actual output - St. Output)

Over head capacity variance (OCV) = (St. Over head rate per day (Actual hours - budget hours)

Over head Calendar Variance= St. Over head per day (Actual days - Budgeted days)

Over head efficiency variance (OEV)= St. Over head rate per day (St. Hours of work done - Actual hours worked)

Q 12. AB Ltd. has furnished the following information :

	Budgeted	*Actual (July 2018)*
Number of Working Days	**25**	**27**
Production (in units)	**20,000**	**22,000**
Fixed Overheads	Rs **30,000**	Rs **31,000**

Budgeted fixed overhead rate is R **1.00 per hour. In July 2018, the actual hours worked were**

31,500. In relation to fixed overheads, calculate :

(*i*) Efficiency Variance (*ii*) Capacity Variance

(*iii*) Calendar Variance (*iv*) Volume Variance

(*v*) Expenditure Variance

Sol)

Standard rate per unit (Budgeted overheads/Budgeted output)

i.e.,

=(Rs 30,000/20,000 unit) = R **1.50**

Standard time per unit (30,000/20,000) = **1.50** hours

(*i*) Efficiency Variance

Standard overhead rate (Standard hours for actual output – Actual hours worked)

R 1.00 (33,000 – 31,500) = 1,500 favourable.

(Standard hour for actual output = 22,000 units @ 1.5 hours = 33,000 hours).

(*ii*) Capacity Variance

Standard rate per hour (Actual hours worked – Budgeted hours for 27 days)

R 1.00 (31,500 – 32,400) = R 900 Adverse.

Budgeted hrs for 25 days = 30,000 therefore, budgeted hours for 27 days = 32,400

*i.e.,(*30,000/25 × 27)

(*iii*) Calendar Variance

Standard Overheads (Actual working days – Standard working days)

Standard no. of days

R 30,000

25 × (27 – 25) = R 2,400 Favourable.

(*iv*) Volume Variance

Standard rate per unit (Actual Output – Standard output)

R 1.50 × (22,000 – 20,000) = R 3,000 Favourable.

(*v*) Expenditure Variance

Budgeted overheads – Actual overheads

R 30,000 – R 31,000 = R 1,000 Adverse.

Q 17. Following information is available from the records of a factory.

	Budget	***Actual***
Fixed overheads for June	Rs **10,000**	Rs **12,000**
Production in June (units)	**2,000**	**2,100**

Standard time per unit (hours) 10

Actual hours worked in June 22,000

Compute : (*i*) Fixed Overhead Cost Variance (*ii*) Expenditure Variance (*iii*) Volume Variance

(*iv*) Capacity Variance (*v*) Efficiency Variance.

Sol)

(i) Fixed Overhead Cost Variance

= Actual Output × St. Fixed Overhead Rate – Actual Fixed Overheads

= 2,100 units × R 5 – R 12,000 = R 1,500 Adverse

(ii) Expenditure Variance

= Budgeted Fixed Overheads – Actual Fixed Overheads

= R 10,000 – R 12,000 = R 2,000 Adverse

(iii) Volume Variance

= St. Fixed Overhead Rate (Actual Output – Budgeted Output)

= R 5 (2,100 units – 2,000 units) = R 500 Fav.

(iv) Capacity Variance

= St. Fixed Overhead per hour (Actual hours – Budgeted hours)

= R 0.50 (22,000 hours – 20,000 hours) = R 1,000 Fav.

[Budgeted Hours = Budgeted production × St. time per unit

= 2,000 units × 10 hours = 20,000 hours

St. rate per hour =

Budgeted overheads

Budgeted hours =

R 10,000

20,000 hours = R 0.50]

(v) Efficiency Variance

= St. fixed overhead per hour (St. hours for actual output – Actual hours)

R 0.50 (21,000 hours – 22,000 hours) = R 500 Adverse

(St. hours for actual output = 2,100 units @ 10 hours = 21,000 hours)

Sales Variance

Q 20. From the following information about sales, calculate : (*a*) Total Sales Variance (*b*) Sales Price Variance (*c*) Sales Volume Variance (*d*) Sales Mix Variance (*e*) Sales Quantity Variance.

		Standard		*Actual*		
Product	***Nos.***	***Rate in per unit***	R R	***Nos.***	***Rate in per unit***	R
A	**5,000**	**5**	**25,000**	**6,000**	**6**	**36,000**

B	**4,000**	**6**	**24,000**	**5,000**	**5**	**25,000**
C	**3,000**	**7**	**21,000**	**4,000**	**8**	**32,000**
	12,000		**70,000**	**15,000**		**93,000**

Sol)

(a) Total Sales Variance

Actual Value of Sales – Standard Value of Sales

R 93,000 – R 70,000 = R 23,000 Favourable

(b) Sales Price Variance

Actual Quantity of Sales (Actual Price – Standard Price)

Product A : 6,000 (R 6 – R 5) = Rs 6,000 Favourable(F)

Product B : 5,000 (R 5 – R 6) = Rs 5,000 Adverse(A)

Product C : 4,000 (R 8 – R 7) = Rs 4,000 Favourable(F)

Rs 5,000 Favourable(F)

(c) Sales Volume Variance

Standard Price (Actual Quantity of Sales – Standard Quantity of Sales)

Product A : R 5 (6,000 - 5,000) = Rs 5,000 Favourable(F)

Product B : R 6 (5,000 – 4,000) = Rs 6,000 Favourable(F)

Product C : R 7 (4,000 – 3,000) = Rs 7,000 Favourable(F)

Rs 18,000 Favourable

(d) Sales Mix Variance :

Revised Standard Mix =(St. Mix of a Product/Total St. Mix) × Total Actual Mix
Product A =(5,000/12,000) × 15,000 = 6,250 units
Product B =(4,000/12,000) × 15,000 = 5,000 units
Product C =(3,000/12,000) × 15,000 = 3,750 units

Sales Mix Variance = St. Value of Actual Mix – St. Value of Revised St. Sales Mix

Product A : 6,000 × R 5 – 6,250 × R 5 =	Rs 1,250 Adverse
Product B : 5,000 × R 6 – 5,000 × R 6 =	Nil
Product C : 4,000 × R 7 – 3,750 × R 7 =	Rs 1,750 Favourable
Total Sales Mix Variance	Rs 500 Favourable

(e) Sales Quantity Variance

Standard Price (Revised Standard Quantity – Budgeted Quantity)

Product A = R 5 (6,250 – 5,000) =	Rs 6,250 Favourable
Product B = R 6 (5,000 – 4,000) =	Rs 6,000 Favourable
Product C = R 7 (3,750 – 3,000) =	Rs 5,250 Favourable
Total Sales Quantity Variance	Rs 17,500 Favourable

Q 21. The Budgeted and actual sales for a period in respect of two products are given below :

Product	***Budgeted Quantity***	***Price***	***Actual Quantity***	***prie***
A	**1,000**	**20**	**1,300**	**21**
B	**2,000**	**15**	**2,300**	**14**
	3,000		**3,600**	

Calculate the sales variances.

Sol)

(a) Sales Value Variance

Actual Value of Sales—Budgeted Value of Sales

i.e. 1,300 units of A @ R 21 + 2,300 units of B @ R 14. – (1,000 units of A @ R 20 + 2,000 units of B @ R 15)

= (R 27,300 + R 32,200)—(R 20,000 + R 30,000)

= R 59,500—R 50,000 = R 9,500 Fav.

(b) Sales Price Variance

Actual Units Sold (Actual Price—St. Price) R

Product A: 1,300 (Rs 21 – R 20)=	1,300 Fav.
Product B : 2,300 (Rs 14 – R 15)=	2,300 Unfav.
	1,000 Unfav.

(c) Sales Volume Variance

St. Price (Actual Quantity of Sales – Budgeted Quantity of Sales)
Product A : R 20 (1,300 units –1,000 units)= 6,000 Fav.
Product B : R 15 (2,300 units – 2,000 units)= 4,500 Fav.

10,500 Fav