

STANDARD COSTING

Question 1: (Basic Material Variances)

NXE Manufacturing Concern furnishes the following information:

Standard:	Material for 1 unit of FG	3 Kg.
	Price of material	Rs. 2 per kg.
Actual:	Output	10 units
	Material used kg.	34 kg.
	Cost of Materials	Rs.2.50

CALCULATE: (a) Material usage variance, (b) Material price variance, (c) Material cost variance.

Question 2: (Material Variances)

The standard mix to produce one unit of a product is as follows:

SMaterial X 60 units @ Rs. 15 per unit	=	900
Material Y 80 units @ Rs. 20 per unit	=	1,600
Material Z <u>100 units</u> @ Rs. 25 per unit	=	<u>2,500</u>
<u>240 units</u>		<u>5,000</u>

During the month of April, 10 units were actually produced and consumption was as follows:

Material X 640 units @ Rs. 17.50 per unit	=	11,200
Material Y 950 units @ Rs. 18.00 per unit	=	17,100
Material Z <u>870 units</u> @ Rs. 27.50 per unit	=	<u>23,925</u>
2,460 units		<u>52,225</u>

CALCULATE all material variances.

Question 3: (Labour Variances)

The standard labour employment and the actual labour engaged in a week for job are as under:

	Skilled workers	Semi-skilled workers	Unskilled workers
Standard no. of workers in the gang	32	12	6
Actual no. of workers employed	28	18	4
Standard wage rate per hour	3	2	1
Actual wage rate per hour	4	3	2

During the 40 hours working week, the gang produced 1,800 standard labour hours of work. CALCULATE:

- | | |
|--------------------------------|--------------------------|
| (a) Labour Cost Variance | (b) Labour Rate Variance |
| (c) Labour Efficiency Variance | (d) Labour Mix Variance |
| (e) Labour Yield Variance | |

Question 4: (Variable Overhead Variances)

From the following information of G Ltd., CALCULATE (i) Variable Overhead Cost Variance; (ii) Variable Overhead Expenditure Variance and (iii) Variable Overhead Efficiency Variance:

Budgeted production	6,000 units
Budgeted variable overhead	Rs. 1,20,000
Standard time for one unit of output	2 hours
Actual production	5,900 units
Actual overhead incurred	Rs. 1,22,000
Actual hours worked	11,600 hours

Question 5: (Basic Fixed Overhead Variances)

From the following information compute fixed overhead variances

Particulars	Budget	Actual
Overheads	100	120
Units	50	53

Question 6: (Fixed Overhead Variances)

From the following information for the month compute fixed overhead variances.

Particulars	Budget	Actual
Working days	20	23
Hours paid	200	220
Idle Hours	-	8
Hours worked	200	212
Units	20,000	22,000
Overheads	1,00,000	1,25,000

Question 7: (Sales Variances)

From the following information about sales, calculate necessary sales variances.

Product	Standard			Actual		
	Nos	Rate in Rs.Per unit	Total Rs.	Nos	Rate in Rs.Per unit	Total Rs.
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

The company's budgeted market share was 20% and the actual market size was 90,000 units.

Question 8: (Sales & Profit Variances)

The company has Budgeted the following data for a month.

Product	SP	Cost per unit	Units
A	10	4	600
B	20	15	400

Budgeted Market size of the industry in which company is operating is 5000 units.

The actual data for the month was :

Products	SP	Cost per unit	Qty.
A	12	5	800
B	19	13	700

Actual market share of the company was 25%.

Required :

1. Sales Variances
2. Profit Variances
3. Reasons for sales mix variance being favourable but profit mix variance being adverse.

Question 9: (Reconciliation Statement Absorption & Marginal)

The Managing Director of your company has been, given, the following statement showing the results for a recent month:

Month ending 31st March, 2021

	Master Budget 10,000	Actual 9,000	Variance (1,000)
No. of units produced. & sold	10,000	9,000	(1,000)
	Rs.	Rs.	Rs.
Sales	40,000	35,000	(5,000)
Direct materials	10,000	9,200	800
Direct wages	15,000	13,100	1,900
Variable overheads	5,000	4,700	300
Fixed overheads	5,000	4,900	100
Total	35,000	31,900	3,100
Net surplus	5,000	3,100	(1,900)

The standard costs : the product are as follows-

		Per Unit
Direct materials	(1 kg. at Rs. 1 per kg)	1.00
Direct wages	(1 hour at Rs.1.50)	1.50
Variable overheads	(1 hour at Rs.0.50)	0.50

Actual results for the month showed that 9,800 kgs of material were used and 8,800 labour hours were recorded.

- (a) Prepare an reconciliation Statement between 'Budgeted Profit & Actual Profit' under 'Absorption Costing Method'
- (b) Prepare an reconciliation Statement between 'Standard Profit & Actual Profit' under 'Absorption Costing Method'
- (c) Prepare an reconciliation Statement between 'Budgeted Profit & Actual Profit' under 'Marginal Costing Method'
- (d) Comment on the calculations that you have made in (c).

Question 10: (Reconciliation Statement With %)

Despite the increase in the sales price of its sole product to the extent of 20% a company finds that it has incurred a loss during the year 2 to the extent of Rs.4 lakhs as against a profit of Rs.5 lakhs made in year 1. This adverse situation is attributed mainly to the increase in prices of materials and rates of Labour, the increase over the previous year being, on the average, 15% and 10% respectively.

The following figures are extracted from, the books of the company.

	Year 1	Year 2
Sales	1,20,00,000	1,29,60,000
Cost of Sales :		
Material	80,00,000	91,10,000
Direct Labour	20,00,000	24,00,000
Fixed Overhead	15,00,000	18,50,000

Required: Analyze the variances over the year in order to bring out the reasons for the fall in profits.

Question 11: (Reconciliation Statement with Limiting Factor)

Trident Toys Ltd. manufactures a single product and the standard cost system is followed. Standard cost per unit is worked out as follows :

	Rs.
Material (10 kgs. @ Rs.4 per kg)	40
Labour (8 hours @ Rs.8 per hour)	64
Variable overheads (8 hours @ Rs.3 per hour)	24
Fixed overheads (8 hours @ Rs.3 per hour)	24
Standard Profit	56

Overheads are allocated on the basis of direct labour hours. In the month of April 2021, there was no difference between the budgeted and actual selling price and there were no opening or closing stock during the period. The other details for the month of April 2021 are as under :

	Budgeted	Actual
Production and Sales	2,000 units	1,800 units
Direct Materials	20,000 kgs @ Rs.4 per kg	20,000 kgs @ Rs.4 per kg
Direct Labour	16,000 Hrs @ Rs.8 per hr.	14,800 hrs @ Rs.8 per Hr.
Variable Overheads	Rs.48,000	Rs.44,400
Fixed Overheads	Rs.48,000	Rs.48,000

Required :

- I. Reconcile the budgeted and actual profit with the help of variances according to each of the following method.
 - (i) The conventional method.
 - (ii) The relevant cost method assuming that
 - (a) There are no scarce inputs
 - (b) Materials are scarce and are restricted to supply of 20,000 kgs for the period.
 - (c) Labour hours are limited and available hours are only 16,000 hours for the period.
- II. Comment on efficiency and responsibility of the Sales Manager for not using scarce resources.

Question 12: (Planning & Operational Variances)

Managing Director of Petro-KL Ltd (PTKLL) thinks that Standard Costing has little to offer in the reporting of material variances due to frequently change in price of materials.

PTKLL can utilize one of two equally suitable raw materials and always plan to utilize the raw material which will lead to cheapest total production costs. However, PTKLL is frequently trapped by price changes and the material actually used often provides, after the event, to have been more expensive than the alternative which was originally rejected.

During last accounting period, to produce a unit of 'P' PTKLL could use either 2.50 Kg of 'PG' or 2.50 kg of 'PD'. PTKLL planned to use 'PG' as it appeared it would be cheaper of the two and plans were based on a cost of 'PG' of Rs.1.50 per Kg. Due to market movements, the actual prices changed and if PTKLL had purchased efficiently the cost would have been:

'PG' Rs.2.25 per Kg;

'PD' Rs.2.00 per Kg

Production of 'P' was 1,000 units and usage of 'PG' amounted to 2,700 Kg at a total cost of Rs. 6,480/-

Required

CALCULATE the material variance for 'P' by:

- (i) Traditional Variance Analysis; and
- (ii) An approach which distinguishes between Planning and Operational Variances.

Question 13: (Interpretation of Sales Variances)

T-tech is a Taiwan based firm, that designs, develops, and sells audio equipment. Founded in 1975 by Mr. Boss, firm sells its products throughout the world. T-tech is best known for its home audio systems and speakers, noise cancelling headphones, professional audio systems and automobile sound systems. Extracts from the budget are shown in the following table:

Home Audio System Division

Jan'2019

System	Sales (units)	Selling Price	Standard Cost (per System) Rs.
3,000 W PMPO	1,500	18,750	12,500
5,000 W PMPO	500	50,000	26,250

The Managing Director has sent you a copy of an email he received from the Sales Manager 'K'. The content of the email was as follows:

'We have had an outstanding month. There was an adverse Sales Price Variance on the 3,000 W PMPO Systems of Rs.22,50,000 but I compensated for that by raising the price of 5,000 W PMPO Systems. Unit sales of 3,000 W PMPO Systems were as expected but sales of the 5,000 W PMPOs were exceptional and gave a Sales Margin Volume Variance of Rs.23,75,000. I think I deserve a bonus!'

The managing Director has asked for your opinion on these figures. You got the following information:

Actual results for Jan' 2019 were:

System	Sales (units)	Selling Price Rs.
3,000 W PMPO	1,500	Rs.17,250
5,000 W PMPO	600	Rs.53,750

The total market demand for 3,000 W PMPO Systems was as budgeted but as a result of suppliers reducing the price of supporting UHD TV System the total market for 5,000 W PMPO Systems raised by 50% in Jan' 2019.

The company had sufficient capacity to meet the revised market demand for 750 units of its 5,000 W PMPO Systems and therefore maintained its market share.

Required

- (i) CALCULATE the following Operational Variances based on the revised market details:
- Sales Margin Mix Variance
 - Sales Margin Volume Variance
- (ii) COMMENT briefly on the measurement of the K's performance.

Question 14: (Interpretation of Labour Variances)

NZSCO Ltd. uses standard costing system for manufacturing its single product 'ANZ'. Standard Cost Card per unit is as follows:

	Rs.
Direct Material (1 kg per unit)	20
Direct Labour (6 hrs @ per hour)	48
Variable Overheads	24

Actual and Budgeted Activity Levels in units for the month of Feb'19 are:

	Budget	Actual
Production	50,000	52,000.

Actual Variable Costs for the month of Feb'19 are given as under:

Direct Material	10,65,600
Direct Labour (3,00,000 hrs)	24,42,000
Variable Overheads	12,28,000

Required

INTERPRET Direct Labour Rate and Efficiency Variances.