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SUGGESTED SOLUTION

CA FINAL NOV'19

SUBJECT- SCM & PE

Test Code - FNJ 7197

BRANCH - () (Date :)

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Answer 1:

(i) Computation of Standard Cost of Production of the Shirts per dozen as well as in total for Lot Nos. 245, 246, 247

Lot No.	Cost per dozen (Rs.)	Dozens	Total Standard Cost
			(Rs.)
245 (UK)	1,062#	1,700	18,05,400
246 (US)	955.20*	1,200	11,46,240
247 (HK)	1,062#	1,000	10,62,000
			40,13,640

(1 mark)

Lot No. 245/247

100% as regards to material cost	Rs. 528.00
100% as regards to conversion cost	Rs. 534.00
	Rs. 1,062.00
* Lot No. 246	
100% as regards to material cost	Rs. 528.00
80% as regards to conversion cost	Rs. 427.20
	Rs. 955.20

(1 mark)

(ii) Statement of Variation between standard quantity of material and actual quantity of material used for each lot as well as in total

Lot Nos.	Output	Std. Qty.	Total Std.	Total Actual	Variation
	(In Dozens)	Per Dozen (In Metre)	Quantity (In Metres)	Quantity (In Metres	(In Metres)
245 (UK)	1,700	24	40,800	40,440	360 (F)
246 (US)	1,200	24	28,800	28,825	25(A)
247 (HK)	1,000	24	24,000	24,100	100(A)
			93,600	93,365	235(F)

(1 mark)

Statement of Variation between standard labour hours and actual labour hours worked for each lot as well as in total

Lot Nos.	Output	Std. Labour Hours	Total Std. Labour Hours	Total Actual Labour Hours	Variation (In Hours)
	(In Dozens)	Per Dozen			
245(UK)	1,700	3	5,100	5,130	30(A)
246 (US)	1,200	3	2,880	2,890	10(A)
			(1,200 Doz × 3 Hrs. × 80%)		
247 (HK)	1,000	3	3,000	2,980	20(F)
			10,980	11,000	20(A)

(1 mark)

(iii) Calculation of Variances

Material Price Variance = Purchase Quantity × (Standard Price – Actual Price)

= 95,000 Metres $\times\left[Rs.\,22 - \frac{Rs.21,28,000}{95,000\ Metres}\right]$

= Rs. 20,90,000 – Rs. 21,28,000

= Rs. 38,000 (A) **(1 mark)**

Labour Rate Variance = Actual Hrs. × (Std. Rate per hour – Actual Rate per hour)

= 11,000 Hrs. × (Rs. 98 – Rs. 100)

= Rs. 22,000 (A) **(1 mark)**

Variable Overhead Efficiency Variance

= Std. Variable Overhead Rate per hour* × (Std. Hours for Actual Output – Actual Hours)

= Rs. 48 × (10,980 Hrs. – 11,000 Hrs.)

= Rs. 960 (A) **(2 marks)**

*Standard Variable Overhead Rate per hour = 60% of Rs. 80 = Rs. 48

Fixed Overhead Volume Variance = Std. Fixed Overhead Rate per hour ** ×

(Std. Hrs. for Actual Output – Budgeted Hours)

= Rs. 32 × (10,980 Hrs. – 12,000 Hrs.)

= Rs. 32,640 (A) **(2 marks)**

** Standard fixed overhead rate per hours = 40% of Rs. 80 = Rs. 32

Answer 2:

Computation of Requirements of Question

Budgeted output in units

Fixed Overhead Expenditure Variance

= Budgeted Fixed Overheads – Actual Fixed Overheads

→ Rs. 8,000 (A) = Budgeted Output × (Rs. 6 × 5 hrs.) – Rs. 1,58,000

→ Budgeted Output = 5,000 units **(1 mark)**

Number of litres purchased

Material Price Variance = Actual Quantity × (Std. Price – Actual Price)

→ Rs. 8,000 (F) = No. of litres purchased × (Rs. 2 - Rs. 1.95)
→ No. of litres purchased = 1,60,000 litres **(2 marks)**

Number of litres used above standard allowed

Material Usage Variance = Standard Price × (Standard Quantity – Actual Quantity)

→ Rs. 5,000 (A) = Rs. 2 × (Standard Quantity – 1,60,000 litres)
→ Standard Quantity = 1,57,500 litres **(2 marks)**

No. of litres above Standard = 1,60,000 litres – 1,57,500 litres

= 2,500 litres **(1 mark)**

Actual units Produced

Labour Cost Variance = Rate Variance + Efficiency Variance

= Rs. 5,760 (A) + Rs. 2,760 (F)

= Rs. 3,000 (A) **(2 marks)**

Labour Cost Variance = Standard Cost – Actual Cost

→ Rs. 3,000 (A) = Actual Output × (Rs. 6 × 5 hrs.) – Rs. 1,56,000
→ Actual Output = 5,100 units **(1 mark)**

Actual hours worked

Labour Efficiency Variance = Standard Rate × (Standard Hours – Actual Hours)

→ Rs. 2,760(F) = Rs. 6 × (5,100 units × 5 hrs. – Actual Hours)
→ Actual Hours = 25,040 hours **(2 marks)**

Average actual wage rate per hour

Labour Rate Variance = Actual Hours × (Standard Rate – Actual Rate)

→ Rs. 5,760 (A) = 25,040 hours × (Rs. 6 – Actual Rate)
→ Actual Rate = Rs. 6.23 ... per hour **(1 mark)**

Answer 3:

Statement showing Reconciliation Between Budgeted [F.Y. 2015 – 16] & Actual Profit [F.Y. 2016 – 17]

Particulars	(Rs. in lacs)	(Rs. in lacs)
Budgeted Profit		200.00
Sales Contribution Variances :		

Price	427.50 (F)	
Volume	25(A)	402.50(F)
Direct Material Variances :		
Price	307.50(A)	
Usage	150.00 (A)	457.50(A)
Variable Overheads Variances :		
Expenditure	25.00 (A)	
Efficiency	25.00 (A)	50.00 (A)
Fixed Overheads Variances :		
Expenditure	67.50 (A)	
Volume	N.A.	67.50 (A)
Actual Profit		27.50

(1 mark)

Computation of Variances (Rs. In Lacs)

Sales Variances (W.N.1)

Price Variance = Actual Sales – Standard Sales

= Rs. 3,277.50 – Rs. 2,850.00

= Rs. 427.50 (F) **(1 mark)**

Volume Variance = Standard Sales - Budgeted Sales

= Rs. 2,850.00 – Rs. 3,000.00

= Rs. 150 (A) **(1 mark)**

Sales Contribution Variances

Sales Contribution = Sales Price Variance

Price Variance = Rs. 427.50(F)

Sales Contribution = Sales Volume Variance × Budgeted PV Ratio

Volume Variance = Rs. 150 (A) $\times \left(\frac{Rs.200+Rs.300}{Rs.3,000}\right)$

= Rs. 25 (A) **(1 mark)**

Material Variance (W.N.2)

Material Price Variance = Standard Cost of Actual Quantity – Actual Cost

= Rs. 2,050.00 – Rs. 2,357.50

= Rs. 307.50(A) **(1 mark)**

Material Usage Variance

= Standard Cost of Standard Quantity for Actual Output – Standard Cost of Actual Quantity

= Rs. 1900 – Rs. 2050

= Rs. 150(A) **(1 mark)**

Variable Overhead Variances (W.N.3)

Expenditure Variance

= Budgeted Variable Overheads for Actual Hours - Actual Variable Overheads

OR

= Std. Rate per unit × Expected Output for Actual Hours Worked – Actual Variable Overheads

= Rs. 500 – Rs. 525

= Rs. 25(A) **(1 mark)**

Efficiency Variances

= Standard Variable Overheads for Production – Budgeted variable Overheads for Actual hours

OR

= Std. Rate per unit × Actual Output – Std. Rate per unit × Expected Output for Actual Hours Worked

= Rs. 475 – Rs. 500

= Rs. 25(A) **(1 mark)**

Fixed Overhead Variances (W.N. 4)

Expenditure Variance = Budgeted Fixed Overheads – Actual Fixed Overheads.

= Rs. 300.00 – Rs. 367.50

= Rs. 67.50 (A) **(1 mark)**

Working Notes (Rs. in lacs)

Note – 1 :

Sales in F.Y. 2016 – 2017	3,277.50
Less : Increase due to price rise [Rs. 3,277.50 lacs × 15/115]	427.50
Sales in F.Y. 2016 – 2017 at F.Y. 2015 – 2016 Prices **[Standard Sales]**	2,850.00
Sales in F.Y. 2015 – 2016	3,000.00
Fall in Sales in F.Y. 2016 – 2017 [Rs, 3,000 lacs – Rs. 2,850 lacs]	150.00
Percentage fall	5%

(1 mark)

Note – 2 :

Material Cost in F.Y. 2015 – 16	2,000.00
Less : 5% for Decrease in Volume	100.00
'Standard Material Usage' at F.Y. 2015 – 16 Prices **(Standard Cost of Standard Quantity for Actual output)**	1,900.00
Actual Material Cost F.Y. 2016 – 2017	2,357.50
Less : 15% Increase in Prices [Rs. 2,357.50 lakhs × 15/115]	307.50

Actual Materials Used, at F.Y. 2015 – 2016 Prices **(Standard Cost of Actual Quantity)**	2,050.0

(1 mark)

Note – 3 :

Variable Overheads Cost in F.Y. 2015 – 16	500.00
Less 5% due to fall in Volume of Sales in F.Y. 2016 – 17	25.00
"Standard Overheads for Production" in F.Y. 2016 – 17	475.00
Actual Variable Overheads Incurred in F.Y. 2016 – 17	525.00
Less : 5% for Increase in Price [Rs. 525 lacs × 5 / 105]	25.00
Amount Spent in F.Y. 2016 – 17 at F.Y. 2015 – 16 Prices **(Budgeted Variable Overheads for Actual Hours)**	500.00

(1 mark)

Answer 4:

(i) **COMPUTATION OF VARIANCES**

Material Usage Variance = Standard Price × (Standard Quantity – Actual Quantity)

= Rs.4.00 × (18,000* Kgs. – 20,000 Kgs.)

= Rs. 8,000 (A)

= *[1800 units x (20000 kgs. / 2000 units)]

Labour Efficiency Variance = Standard Rate × (Standard Hours – Actual Hours)

= Rs.8.00 × (14,400* hrs. – 14,800 hrs.)

= Rs.3,200 (A)

= *[1800 units x (16000 hrs. / 2000 units)]

Variable Overhead Efficiency Variance

= Standard Variable Overheads for Production – Budgeted Variable Overheads for Actual hours

= (14,400 hrs. × Rs.3.00) – (Rs.3.00 × 14,800 hrs.)

= Rs.1,200 (A)

Fixed Overhead Volume Variance

= Absorbed Fixed Overheads – Budgeted Fixed Overheads

= (14,400 hrs. × Rs.3.00) – (16,000 hrs. × Rs.3.00)

= Rs.4,800 (A)

Sales Margin Volume Variance = Standard Margin – Budgeted Margin

= (1,800 units × Rs.56.00) – (2,000 units × Rs.56.00)

= Rs.11,200 (A)

Sales Contribution Volume Variance

= Standard Contribution – Budgeted Contribution

= (1,800 units × Rs.80.00) – (2,000 units × Rs.80.00)

= Rs.16,000 (A)

(6 marks)

"Statement Showing "Reconciliation Between Budgeted Profit & Actual Profit"

Particulars	Conventional Method (Rs.)	Relevant Cost Method (Rs.)		
		Scarce Material	Scarce Labour	No Scarce Inputs
Budgeted Profit (2,000 units × Rs.56)	1,12,000	1,12,000	1,12,000	1,12,000
Sales Volume Variance	11,200 (A)	NIL*	12,000$ (A)	16,000 (A)
Material Usage Variance	8,000 (A)	24,000 (A)	8,000 (A)	8,000 (A)
Labour Efficiency Variance	3,200 (A)	3,200 (A)	7,200 (A)	3,200 (A)
Variable Overhead Efficiency Variance	1,200 (A)	1,200 (A)	1,200 (A)	1,200 (A)
Fixed Overhead Volume Variance	4,800 (A)	N.A.#	N.A. #	N.A. #
Actual Profit	**83,600**	**83,600**	**83,600**	**83,600**

(3 marks)

NOTES

Scarce Material

Based on conventional method, direct material usage variance is Rs.8,000 (A) i.e. 2,000 Kg. × Rs.4. In this situation material is scarce, and, therefore, material cost variance based on relevant cost method should also include contribution lost per unit of material. Excess usage of 2,000 Kg. leads to lost contribution of Rs.16,000 i.e. 2,000 Kgs. × Rs.8. **Total material usage variance based on relevant cost method, when material is scarce will be:**

Rs.8,000 (A) + Rs.16,000 (A) = Rs.24,000 (A). Since labour is not scarce, labour variances are identical to conventional method.

Excess usage of 2,000 Kgs. leads to loss of contribution from 200 units i.e. Rs.16,000 (200 units × Rs.80). It is not the function of the sales manager to use material efficiently. Hence, loss of contribution from 200 units should be excluded while computing sales contribution volume variance.

(*)→

Therefore, sales contribution volume variance, when materials are scarce will be NIL i.e. Rs.16,000 (A) - Rs.16,000 (A).

Scarce Labour

Material is no longer scarce, and, therefore, the direct material variances are same as in conventional method. In conventional method, excess labour hours used are: 14,400 hrs. – 14,800 hrs. = 400 hrs. Contribution lost per hour = Rs.10. Therefore, total contribution lost, when labour is scarce will be: 400 hrs. × Rs.10 = Rs.4,000. **Therefore, total labour efficiency variance, when labour hours are scarce will be Rs.7,200 (A) i.e. Rs.3,200 (A) + Rs.4,000 (A).**

Excess usage of 400 hrs. leads to loss of contribution from 50 units i.e. Rs.4,000 (50 units × Rs.80). It is not the function of the sales manager to use labour hours efficiently . Hence, loss of contribution from 50 units should be excluded while computing sales contribution volume Variance.

($)→

Therefore, sales contribution volume variance, when labour hours are Scarce will be Rs.12,000 (A) i.e. Rs.16,000 (A) - Rs.4,000 (A).

Fixed Overhead Volume Variance

(#) →

The fixed overhead volume variance does not arise in marginal costing system. In absorption costing system, it represents the value of the under or over absorbed fixed overheads due to change in production volume. When marginal costing is in use there is no overhead volume variance, because marginal costing does not absorb fixed overheads.

(ii) **Comment on Efficiency and Responsibility of the Sales Manager**

In general, Gross Profit (or contribution margin) is the joint responsibility of sales managers as well as of production managers. *On one hand the sales manager is responsible for the sales revenue part, on the other hand the production manager is accountable for the cost - of-goods-sold component.* However, it is the top management who needs to ensure that the target profit is achieved by the organization. *The sales manager is accountable for prices, volume, and mix of the product, whereas the production manager must control the costs of materials, labour, factory overheads and quantities of production. The purchase manager must purchase materials at budgeted prices. The personnel manager must employ right people at the right place with appropriate wage rates.* The internal audit manager must ensure that the budgetary figures for sales and costs are being adhered by all departments which are directly or indirectly involved in contribution of making profit. Thus, sales manager is not responsible for contribution lost due to excess usage or inefficient usage of resources in case of scarce resources. Hence, such contribution lost must be excluded from the sales contribution volume variance. **(3 marks)**

Answer 5:

Deliberate action of cutting price to increase sales volume indicates that firm is intending to expand its market to retail market and street shops which is price sensitive.

Purchase Price Variance is clearly indicating that firm has purchased raw material at lower price which may be due to buying of lower quality of material. Similarly positive Efficiency Variance is indicating cost cutting and stretching resources.

It appears that firm is intending to expand its market to retail market and street shops by not only reducing the price but also compromising its quality which is opposing its current strategy of high quality.

Management should monitor the trends of variances on regular basis and take appropriate action in case of evidence of permanent decline in quality. Here, customer feedback is also very important. **(4 marks)**