COST AND MANAGEMENT ACCOUTING-PERFORMANCE APPRAISAL - STAGE -3

Marks

Q. 2 (a) Traditional cost system assigns only manufacturing costs to products which includes direct materials, direct labour and manufacturing overhead. Selling and administrative costs are not assigned to products. 1

The traditional cost system uses a plant wide overhead rate to assign manufacturing overhead costs to products. 1

ABC does not assign the manufacturing overhead costs included in the other activity to products and costs of unused capacity are not caused by any particular product. 1

(b) (1) Cost of Quality Report

		2010			2011			Marks
	Cost Elements	July	Aug.	Sept.	July	Aug.	Sept.	
	Quality Assurance	186	195	206	239	263	288	
	Training	393	431	477	633	765	911	
	Process Engineering	66	74	83	116	146	183	
(i)	**Prevention cost**	**645**	**700**	**766**	**988**	**1,174**	**1,382**	2
	Inspection	42	47	53	72	89	110	
	Testing	48	51	56	68	78	90	
(ii)	**Appraisal cost**	**90**	**98**	**109**	**140**	**167**	**200**	2
	Rework	474	380	300	218	185	167	
	Scrap	528	435	357	267	231	210	
(iii)	**Internal Failure cost**	**1,002**	**815**	**657**	**485**	**416**	**377**	2
	Sales Lost	1,476	1,209	993	734	632	576	
	Sales Returns	807	632	491	339	285	252	
	Customer Complaint	117	104	90	75	68	65	
(iv)	**External Failure cost**	**2,400**	**1,945**	**1,574**	**1,148**	**985**	**893**	2
	Total Cost (i) to (iv)	**4,137**	**3,558**	**3,106**	**2,761**	**2,742**	**2,852**	2

SUGGESTED ANSWERS

(2) Comments

From the data of Quality Report, it is observed that prevention and appraisal costs are increasing while internal and external failure costs have been decreased. 1

It is concluded that the company is spending too much on improving quality assuming that the underlying production processes have not changed over time. 1

Quality Costs were minimized in August, 2011. Since then, the additional cost on appraisal and prevention has yielded smaller savings in internal and external failure costs in September, 2011. 1

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SUGGESTED ANSWERS

Q. 3 (a) **Marks**

(i) Apportionment of Joint Cost to X and Y in proportion of Sales Value at Split-off Point

Sale Value of Product X	Sale Value of Product Y	Marks
240,000 Kgs x Rs.16=Rs.3,840,000	120,000 Kgs x Rs.8=Rs.960,000	1+1

Therefore, the joint cost of Rs. 1,750,000 can be apportioned to products X and Y in the ratio of 4:1

							Marks
Product X	Rs.1,750,000	x	4/5	=	Rs.	1,400,000	1
Product Y	Rs.1,750,000	x	1/5	=	Rs.	350,000	1

(ii) Statement Showing Cost per kg of each product indicating Joint Cost, Processing and Total Cost.

	Product X Total Rs.	200,000kgs Per Kg	Product Y Total Rs.	240,000kgs Per Kg	Marks
Share in Joint Cost	1,400,000	7.00	350,000	1.46	1
Further Processing Cost	360,000	1.80	300,000	1.25	1
Total Cost	1,760,000	8.80	650,000	2.71	1

(iii) Statement Showing Product wise Profit for the period.

Amount in Rs.

	Product X	Product Y	Marks
Sales (180,000 Kgs @ 20)	3,600,000		1
(230,000 Kgs @ 8)		1,840,000	1
Add: Closing Inventory at full cost as in above (ii)			
(20,000 Kgs @ 8.80)	176,000		
(10,000 Kgs @ 2.71)		27,100	
Value of Production	3,776,000	1,867,100	1
Less: Share of Joint Cost	1,400,000	350,000	1
Further Processing Cost	360,000	300,000	1
Profit	2,016,000	1,217,100	1

(b) Comments to increase profitability

It is suggested that Product X should be sold at split-off point and Product Y should be further processed before sale to increase profitability from the following analysis of further processing: 2

Incremental profit = Incremental sales - Incremental cost

		Marks
Product X	[(200,000 Kgs x Rs.20) - (240,000 Kgs x Rs. 16)] - Rs.360,000 =Rs.200,000 Loss	1
Product Y	[(240,000 Kgs x Rs. 8) - (120,000 Kgs x Rs. 8)] - Rs.300,000 = Rs.660,000 Profit	1

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Marks

Q. 4. (i) Calculation of operating income of Master Budget

		Rs. '000'	Marks
Sales		2,720	
Less: Cost of Sales		2,080	
Gross Profit		640	1
Less: Administrative Expenses			
- Variable (5 % of Sales)	136		
- Fixed	392	528	
Operating Income		112	1

(ii) Reconciliation of operating income of Master Budget with the Flexible Budget.

	Rs.'000'	Marks
Master Budget	112	
Flexible Budget	250	
Difference	138	1

This difference is explained by the contribution margin of additional 2,000 units.

Contribution Margin per unit based on Master Budget.	Amount in Rs. per unit		Marks
Selling Price		170.00	
Variable Costs:			
Materials (Rs.560,000 / 16,000)	35.00		
Direct Labour (Rs.640,000 / 16,000)	40.00		
Variable Factory Overhead (Rs.280,000 / 16,000)	17.50		
Variable Administrative Overhead (Rs.136,000 / 16,000)	8.50	101.00	2
Contribution Margin per unit		69.00	1
Contribution of additional sales (2,000 units @ Rs. 69.00)		138,000	1

(iii) Reconciliation of income (loss) based on Standard Direct Costing System with the Standard Absorption Costing System:

		Marks
Loss under standard Direct Costing System	Rs. (74,000)	
Income under standard Absorption Costing System	Rs. 151,000	
Difference	Rs. 225,000	1

This difference consists of fixed overhead allocated to inventory if absorption costing is used:

Fixed factory overhead absorption rate = Rs.600,000/ 16,000 units = Rs.37.50 per unit 1

Cost allocated to inventory = Rs.37.50 per unit x (24,000 –18,000) = Rs.225,000 1

(iv) Variance Analysis reconciling flexible budget income with loss under direct costing :

	Rs. '000'	Marks
Flexible budget operating income	250	
Loss under Standard Direct Costing	74	
Difference	324	1

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	Kgs	Unit cost in Rs.	Rs. '000		Marks
Material price usage variance					
Actual quantity used	40,000	25 actual	1,000		
Actual quantity used	40,000	20 standard	800	200	1
Material quantity variance					
Actual quantity used	40,000	20 actual	800		
Standard quantity used	42,000	20 standard	840	(40)	2
Direct labour					
Rate variance	Hours	Rate in Rs.			
Actual hours worked	4,080	250 actual	1,020		
Standard hours worked	4,080	250 standard	1,020	Zero	2
Efficiency variance					
Actual hours worked	4,080	250 standard	1,020		
Standard hours worked	3,840 *	250 standard	960	60	2

* 2,560 hour/ 16,000 units x 24,000 units = 3,840

	Rs.'000	Rs.'000		Marks
Factory overhead controllable variance				
Actual factory overhead (Rs.436,000 + Rs. 628,000)		1,064		
Budget allowance based on units produced:				
Fixed factory overhead budgeted	600			
Variable FOH (Rs.280,000/ 16,000 x 24,000)	420	1,020	44	2
Administrative expenses variance				
Actual expenses (Rs.153,000 + Rs.452,000)		605		
Budget allowance based on actual sales:				
Fixed expenses budgeted	392			
Variable expenses (5% of Rs.3,060,000)	153	545	60	2
			324	1

SUGGESTED ANSWERS

Q. 5 (i) UNIT COSTS & SELLING PRICES:

	Product P		Product Q		Marks
	Kgs	Rs.	Kgs	Rs.	
Direct Material Alpha (@ Rs.100/Kg)	10	1,000	4	400	
Direct Material Beta (@ Rs.200/Kg)	5	1,000	6	1,200	
		2,000		1,600	2
	Hours		Hours		
Direct labour – Technical (@ Rs.300/Hrs)	8	2,400	10	3,000	
Direct labour – Skilled (@ Rs.200/Hrs)	12	2,400	5	1,000	
	20	4,800	15	4,000	2
Fixed Prod. Overhead (408,000,000 / 2,550,000 hrs=Rs. 160)		3,200		2,400	
Production cost		10,000		8,000	2
Admin., Selling & Dist.OH 20%		2,000		1,600	
Total Cost		12,000		9,600	
Profit 20% of selling price		3,000		2,400	
Selling price per unit		15,000		12,000	2

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(ii) PRODUCTION BUDGET:

		Product P		Product Q	Marks
Total sales Rs. '000'		750,000		960,000	
Selling price Rs./ unit		15,000		12,000	
Number of units to be sold		50,000		80,000	
Ending inventory: Rs. '000'	150,000		200,000		
UNIT		15,000		25,000	
Units available for sale		65,000		105,000	1+1
Beginning inventory: Rs. '000'	50,000		120,000		
UNIT		5,000		15,000	
Production requierd - units		60,000		90,000	1+1

(iii) MATERIALS COST BUDGET (Rs. '000')

	Material Alpha	Material Beta	Total	Marks
Production P - 60,000 units	60,000	60,000	120,000	
Production Q - 90,000 units	36,000	108,000	144,000	
Total cost of materials	96,000	168,000	264,000	3
	1+	1+	1	

(iv) MATERIALS PURCHASE BUDGET (KGS):

		Material Alpha		Material Beta		Marks
Required for Product P (60,000 units x 10Kg & 5Kg)		600,000		300,000		
Required for Product Q (90,000 units x 4Kg & 6Kg)		360,000		540,000		
Material required for production		960,000		840,000		2
Ending inventory Rs. '000'	16,000		42,000			
KGS		160,000		210,000		
Material available		1,120,000		1,050,000		2
Beginning inventory: Rs. '000'	32,000		30,000			
KGS @ Rs.50		320,000		150,000		
Materials to be purchased - KGS		800,000		900,000	TOTAL	
Rs. '000'		80,000		180,000	260,000	2

(v) DIRECT LABOUR BUDGET:

	Technical	**Skilled**	**Total**	Marks
Requierd for Product P - 60,000 units	480,000	720,000	1,200,000	
Requierd for Product Q - 90,000 units	900,000	450,000	1,350,000	
Total labour hours required	1,380,000	1,170,000	2,550,000	
Rate per labour hour - Rs.	300	200		
Budgeted labour cost Rs. '000'	414,000	234,000	648,000	3

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Marks

Q. 6 **(a)** Operating assets do not include investments in other companies and undeveloped land.

	Beginning Balance	Ending Balance	
Cash	180,000	240,000	
Accounts receivable	165,000	150,000	
Inventory	75,000	90,000	
Plant and equipment (net)	270,000	240,000	
Total operating assets	690,000	720,000	2

Average operating assets = (Rs.690,000 + 720,000) ÷ 2 = Rs. 705,000 — 1

Margin = Net operating income ÷ Sales
= Rs.183,300 ÷ 1,833,000 = 10% — 1

Turnover = Sales ÷ Average operating assets
= Rs.1,833,000 ÷ 705,000 = 2.6 — 1

ROI = Margin x Turnover — 1
= 10% x 2.6 = 26% — 1

(b)

		Marks
Net operating income	183,300	
Minimum required return (25% x Rs.705,000)	176,250	1
Residual income	7,050	2

THE END

SUGGESTED ANSWERS

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