COST AND MANAGEMENT ACCOUTING-PERFORMANCE APPRAISAL - STAGE –3

Marks

Q. 2 (i) Income Statement under marginal costing:

	Rs. in '000'	Rs. in '000'	Marks
Sales (28,000 @ Rs. 5,000)		140,000	
Opening inventory (1,000 @ Rs. 2,000)	2,000		
Add: Variable factory cost (30,000 @ Rs. 2,000)	60,000		1
	62,000		
Less: Ending inventory (3,000 @ Rs. 2,000)	6,000		
	56,000		
Add: Adverse variance	2,500		1
Variable cost of goods sold	58,500		1
Add: Variable marketing & distribution cost	14,000	72,500	
Contribution margin		67,500	1
Less: Fixed cost			
Factory overhead	2,500		
Marketing & distribution	500		
General & administrative	750	3,750	
Operating income		63,750	1

(ii) Income Statement under absorption costing:

	Rs. in '000'	Rs. in '000'	Marks
Sales (28,000 @ Rs. 5,000)		140,000	
Variable factory cost (30,000 @ Rs. 2,000)	60,000		
Add: Applied Fixed factory overhead (30,000 @ 62.50)	1,875		
Cost of goods manufactured	61,875		1
Opening inventory – 1,000 units @ (2000+62.50)	2,062.50		
Cost of goods available for sales	63,937.50		1
Less: Ending inventory (3,000 @ Rs. 2,062.50)	6,187.50		
Unadjusted cost of goods sold	57,750		1
Add: Adverse variance of variable factory cost	2,500		
Underapplied fixed cost (25% of 2,500)	625		
Adjusted cost of goods sold		60,875	1
Gross Profit		79,125	1
Less: Marketing & General expenses:			
Variable marketing (28,000 units @ Rs.500)	14,000		
Fixed marketing & distribution	500		
Fixed General & administrative	750	15,250	1
Operating income		63,875	1

Marks

Q.3 (a) Cost to be apportioned to joint product:

Joint Process costs – Revenues from by-product Z

Rs. 1,364,630 – **(2,770 Kgs x Rs. 4)** 1

= Rs. 1,364,630 – Rs. 11,080 = **Rs. 1,353,550** 1

Market value of output:

	Production in Kgs.	Market rate per Kg	Rs. in '000'	Marks
Product X	16,000	Rs. 30.50	488	1
Product Y	53,200	Rs. 37.50	1,995	
Total			2,483	1

Apportionment of joint costs:

		Rupees	Marks
Product X	(Rs.488,000 / Rs. 2,483,000 x Rs. 1,353,550)	266,022	1
Product Y	(Rs.1,995,000/ Rs. 2,483,000 x Rs. 1,353,550)	1,087,528	1
Total		1,353,550	

Cost per Kg.:

		Rs. per Kg	Marks
Product X	(Rs. 266,022 / 16,000)	16.63	1
Product Y	(Rs.1,087,528/ 53,200)	20.44	1

(b) (i) Total Production cost :

	(Kgs)	Rate per Kg.	Amount in Rupees	Marks
Material A (33.333%)	3,220	Rs. 25	80,500	
Material B (66.667%)	6,440	Rs. 8	51,520	
Total	9,660		132,020	1
Conversion costs			118,980	
Total Production cost			251,000	1

Cost per Kg.:

Cost per Kg = Cost of total production / Expected output

= Rs. 251,000 / (95 % of 9,660 Kgs)

= Rs. 251,000 / 9,177 Kgs.

= Rs. 27.351 per Kg. 2

(ii) Process account of Beta:

	Kgs.	Rupees		Kgs.	Rupees	Marks
Materials	9,660	132,020	Normal loss 5% *	483		
Conversion cost		118,980	Abnormal loss (balance qty)	47	1,285	
			Output **	9,130	249,715	
		251,000		9,660	251,000	
		2			+2 =	4

* 5% of 9,660

** 9,130 @ 27.351

Marks

Q. 4 (a) Purposes of a standard costing:

Standard costing system can be used for the following purposes :

- Providing a **prediction of future costs** that can be used for decision-making 1
- Providing a **challenging target through** which individuals are motivated to achieve 1
- Providing a reliable and convenient **source of data for budget preparation** 1
- Acting as a **control device by highlighting those activities that do not conform to plan** and thus alerting managers to those situations that may be out of control and in need of corrective action, and 1
- **Simplifying the task of tracing costs to products** for profit measurement and inventory valuation purpose. 1

(b) Percentage of cost elements in finished goods and cost of sales:

(Rs. '000')

	Direct Materials	%	Direct Labour	%	Applied Factory Overhead	%	
Finished goods	4,350	20	6,525	15	5,220	15	1
Cost of sales	17,400	80	36,975	85	29,580	85	1
Total	21,750	100	43,500	100	34,800	100	

Allocation of variances:

(Rs. '000')

Variances		Total	Finished goods		Cost of Sales		
Direct materials price		500	100	(i) & (ii)	400		
Direct materials quantity		(750)	(150)	(ii)	(600)		
Direct labour rate		1,000	150	(iii)	850		
Direct labour efficiency		(250)	(37.50)	(iii)	(212.50)		
Factory overhead	(*)	(300)	(45)		(255)		
Total		200	17.50		182.50	(iv)	
			1		+1	=	2

(*) 34,800 – 34,500

(i) Rs.100,000 **direct materials price variance** to be prorated to finished goods as at June 30, 2011 4

(ii) Rs.4,350,000 + 100,000 + Rs.(150,000) **direct material quantity variance** to be prorated to finished goods as at June 30, 2011

= Rs.4,300,000 **direct materials** in finished goods as at June 30, 2011 after proration of all variances 4

(iii) Rs.6,525,000 + 150,000 + Rs.(37,500)

= Rs.6,637,500 **Direct labour** in finished goods as at June 30, 2011 after proration of all variances 4

(iv) Rs.17,400,000 + 36,975,000 + 29,580,000 + **182,500**

= Rs.84,137,500 **Cost of sales** for the year after proration of all variances 4

Marks

Q.5 (i) Production Budget showing quantities to be produced:

(Quantities in units)

	Chair	Table	Stool		Marks
Quantities to be sold in units	4,200	800	500		
Add: Planned ending inventory	200	300	50		
	4,400	1,100	550		
Less: Planned opening inventory	400	100	50		
Quantities to be manufactured in units	4,000	1,000	500		
	1	+1	+1	=	3

(ii) Material Purchase Budget showing quantities and amount :

Material Purchase Budget in Quantities

	Timber	Upholstery		Marks
Unit of measurement	**Cubic feet**	**Square metre**		
Planned ending materials	650	260		
Add: Materials required for production *	4,450	1,000		
	5,100	1,260		
Less: Planned opening materials	600	400		
Materials to be purchased	4,500	860		
	1	1+	=	2

Material Purchase Budget in Rupees

	Quantities to be purchased	Rate Rupees	Amount Rs. in '000'	Marks
Timber – Cubic feet	4,500	500	2,250	1
Upholstery – Square metre	860	200	172	1
Total			2,422	

(iii) Direct labour cost budget in Rupees

	Total Hours	Rater Rs. per hour	Amount in Rupees	Marks
Carpenter's time and cost *	4,625	60	277,500	1
Fixer and finisher's time and cost *	1,500	48	72,000	1
Total Direct Labour Cost			349,500	

*** Working:**

Materials, Carpenter's and Fixer & finisher's time requirements :

Items	Chairs	Tables	Stools	Total	Marks
Units to be produced (Nos.)	4,000	1,000	500	5,500	
Timber requirement	2,000 (4000 x 0.5)	1,200 (1000 x 1.2)	1,250 (500 x 2.5)	4,450	1.5
Upholstery requirement	1,000 (4000 x 0.25)	-	-	1,000	0.5
Carpenter's time (Hours)	3,000 (4000 x 45/60)	1,000 (1000 x 1)	625 (500 x 75/60)	4,625	1.5
Fixer and finisher's time (Hrs.)	1,000 (4000 x 15/60)	250 (1000 x 15/60)	250 (500 x 30/60)	1,500	1.5

Marks

(iv) Statement showing variable cost of production per unit:

Rupees

Items :	**Chairs**	**Tables**	**Stools**		
Materials :					
Timber	250	600	1,250		
	(0.5 x Rs.500)	(1.2 x Rs.500)	(2.5 x Rs.500)		
Upholstery (0.25 x Rs. 200)	50	-	-		
Fixing and finishing *	15	30	62.50		
Labour :					
Carpenter	45	60	75		
	(Rs.60 x 45/60)	(Rs.60 x 60/60)	(Rs.60 x 75/60)		
Fixer and finisher	12	12	24		
	(Rs.48 x 15/60)	(Rs.48 x 15/60)	(Rs.48 x 30/60)		
Total variable cost per unit	372	702	1,411.50		
	2 +	2 +	2	=	6

*** Per unit cost of fixing and finishing:**

Rupees

	Chairs	**Tables**	**Stools**	
Variable cost of timber	250	600	1,250	
Variable cost of upholstery	50	-	-	
Total of timber and upholstery	300	600	1,250	
5% of above	15	30	62.50	1

(v) Budgeted Income Statement (Product-wise)
For the quarter ended December 31, 2011

Rupees

	Chairs	**Tables**	**Stools**	**Total**		
Selling Price per unit	500	850	1,580.00			
Less: Variable cost per unit (as above)	372	702	1,411.50			
Contribution margin per unit	128	148	168.50			
Estimated selling quantities in Nos.	4,200	800	500			
Total Contribution	537,600	118,400	84,250	740,250		
Less: Fixed Cost				240,000		
Budgeted net income				500,250		
	1	+1	+1	+1	=	4

Marks

Q.6 (i) X Division has spare capacity and limited demand for Product A:

In this option, the incremental cost to the company of producing Product B is Rs. 175. It costs Y Division Rs. 190 to buy product B from the external market and so **it is cheaper by Rs. 15 per unit to buy from X Division**. 2

The transfer price needs to be fixed **at a price above Rs. 175 giving some incentive to X Division** to supply Y Division and **to earn some contribution** towards fixed overheads. 1

However, the transfer price **must be lower than Rs. 190** per unit. To **encourage Y Division to buy from X Division rather than from the external supplier.** 1

The transfer price should, therefore, be set in the **range above Rs. 175 and below Rs. 190** and at a level so that both divisions act independently and in their own interest, would **choose to buy from and sell to each other**. 1 1

(ii) X Division is operating at full capacity with unsatisfied external demand for product A:

If X Division chooses to supply Y Division rather than the external market, **the opportunity cost of such a decision must be incorporated into the transfer price.** 1

For every unit of product B produced and sold to Y Division, X Division **will lose Rs. 50** Rs.(210-160) **in contribution due to not supplying product A to the external market**. 1

The **relevant cost of supplying product B** in these circumstances is therefore **Rs. 225 (Rs. 175 + Rs. 50)**. 1

It is, therefore, in the interest of the company as a whole if Y Division **procure product B externally at the cheaper price of Rs. 190** per unit. X Division can therefore **continue to supply external demand at Rs. 210** per unit. 2

The company can ensure that the transfer price of product B is set above Rs.190, thereby encouraging Y Division to buy externally rather than from X Division. 1

THE END