7. BUDGETARY CONTROL

ASSIGNMENT SOLUTIONS

PROBLEM NO: 1

i) Production Budget for the year 2013 by Quarters

		I	II	III	IV	Total
	Sales demand (Unit)	18,000	22,000	25,000	27,000	92,000
I	Opening Stock	6,000	7,200	8,100	8,700	30,000
II	70% of Current Quarter's Demand	12,600	15,400	17,500	18,900	64,400
III	30% of Following Quarter's Demand	6,600	7,500	8,100	7,400*	29,600
IV	Total Production (II & III)	19,200	22,900	25,600	26,300	94,000
V	Closing Stock (I + IV - Sales)	7,200	8,100	8,700	8,000	32,000

*Balancing Figure

ii) Break Even Point (in units) = Fixed Cost ÷ Contribution per unit = Rs. 2,20,000 ÷ Rs. 5.5 = 40,000 units.
Total sales in the quarter II is 40,000 equal to BEP means BEP achieved in II quarter.

PROBLEM NO: 2

i) Production Budget (month wise) for the first quarter of the year 2015-16:

Particulars	April	May	June
Product Xml			
Current month sales	8,000	10,000	12,000
Add: Closing stock (25% of next month)	2,500 (10,000 x 25%)	3,000 (12,000 x 25%)	4,000 (10,000 x 25%)
Less: Opening stock	(2,000)	(2,500)	(3,000)
Production for the month	8,500	10,500	13,000
Product Yml			
Month sales	6,000	8,000	9,000
Add: Closing stock (25% of next month)	2,000 (8,000 x 25%)	2,250 (9,000 x 25%)	3,500 (14,000 x 25%)
Less: Opening stock	(1,500)	(2,000)	(2,250)
	6,500	8,250	10,250

ii) Production cost budget (for first quarter) of the year 2015-16:

Particulars	Xml	Yml
Total production for the quantity (units)	32,000 (8,500 + 10,500 + 13,000)	25,000 (6,500 + 8,250 + 10,250)
Direct material per unit	220	280
Direct labour per unit	130	120
Direct man Exp. Per unit	$2\left(\frac{4,00,000}{2,00,000}\right)$	$3.3333\left(\frac{5,00,000}{1,50,000}\right)$
Total cost per unit	352	403.33
Total production cost	1,12,64,000 (32,000 x 352)	1,00,88,333.33 (25,000 x 403.3333)

Note: Direct manufacturing expenses given is assumed as for to be budgeted production i.e. 2,00,000 & 1,50,000 for Xml & Yml given in the problem.

PROBLEM NO: 3

Production Budget of Product Minimax and Heavyhigh (in units)

Particulars	April		May		June		Total	
	MM	HH	MM	HH	MM	HH	MM	HH
Sales	8,000	6,000	10,000	8,000	12,000	9,000	30,000	23,000
Add: Closing Stock (25% of next month's sale)	2,500	2,000	3,000	2,250	4,000	3,500	9,500	7,750
Less: Opening Stock	2,000*	1,500*	2,500	2,000	3,000	2,250	7,500	5,750
Production units	8,500	6,500	10,500	8,250	13,000	10,250	32,000	25,000

* Opening stock of April is the closing stock of March, which is as per company's policy 25% of next month's sale.

Production Cost Budget

Element of cost	Rate (Rs.)		Amount (Rs.)	
	MM (32,000 units)	HH (25,000 units)	MM	HH
Direct Material	220	280	70,40,000	70,00,000
Direct Labour	130	120	41,60,000	30,00,000
Manufacturing Overhead				
(4,00,000 ÷ 1,80,000 × 32,000)			71,111	
(5,00,000 ÷ 1,20,000 × 25,000)				1,04,167
			1,12,71,111	1,01,04,167

PROBLEM NO: 4

a)

i) Production Budget (in Units) for the year ended 31-03-2016

Particulars	Product M	Product N
Budgeted sales (Units)	28,000	13,000
Add: Increase in Closing stock	320	160
No. of good Units to be Produced	28,320	13,160
Post Production Rejection rate	4%	6%
No. of units to be Produced	$29,500 \left[\frac{28,320}{0.96}\right]$	$14,000 \left[\frac{13,160}{0.94}\right]$

ii) Purchase budget (in kgs and value) for Material Z

Particulars	Product M	Product N
No. of Units to be Produced	29,500	14,000
Usage of Material Z per unit of production	5 Kg	6 Kg
Material Needed for Production	1,47,500Kg	84,000 Kg
Materials to be Purchased	1,63,889 Kg $\left[\frac{1,47,500}{0.90}\right]$	88,421 Kg $\left[\frac{84,000}{0.95}\right]$
Total quantity to be Purchased	2,52,310 Kg	
Rate per Kg of Material Z	Rs.36	
Total Purchase Price	Rs.90,83,160	

b) Calculation of Economic Order Quantity for Material Z

$$EOQ = \sqrt{\frac{2 \times 2,52,310\,Kg \times Rs\,320}{Rs\,36 \times 11\%}} = \sqrt{\frac{16,14,78,400}{Rs\,3.96}} = 6,385.72\ Kg$$

c) Since, the Maximum number of order per year cannot be More than 40 orders and the Maximum quantity per order that can be Purchased is 4,000kg. Hence, the total quantity of Material Z that can be available for Production = 4,000kg x 40 orders = 1,60,000 kg.

Particulars	Product M	Product N
Material needed for Production to maintain the same Production Mix	1,03,929 Kg $\left[1,60,000 \times \frac{1,63,889}{2,52,310}\right]$	56,071 Kg $\left[1,60,000 \times \frac{88,421}{2,52,310}\right]$
Less: Process Wastage	10,393 Kg	2,804 Kg
Net Material available for Production	93,536 Kg	53,267 Kg
Units to be Produced	18,707 Units $\left[\frac{93,536\ Kg}{5\ Kg}\right]$	8,878 Units $\left[\frac{53,267\ Kg}{6\ Kg}\right]$

PROBLEM NO: 5

a) **Production Budget** **(in Litres)**

	June	July	August	September
Litres to be sold	6,000	7,500	8,500	7,000
Litres in closing stock	750	850	700	650
Litres in opening stock	(750)	(750)	(850)	(700)
	6,000	7,600	8,350	6,950

Fruits used will be:

June	July	August	September
21,000 (6,000 Ltr × 3.5 kg)	26,600 (7,600 Ltr × 3.5 kg)	29,225 (8,350 Ltr × 3.5 kg)	24,325 (6,950 Ltr × 3.5 kg)

b) **Fruits purchase budget**

	June	July	August
Quantity to be used	21,000	26,600	29,225
Add: Quantity in closing stock	13,300	14,612.50	12,162.50
Less: Quantity in opening stock	(5,800)	(13,300)	(14,612.50)
Purchase budget	28,500	27,912.50	26,775

c) **Budgeted profit for the quarter- June to August**

	June (Rs.)	July (Rs.)	August (Rs.)	Total (Rs.)
Sales:				
6,000 × Rs. 105	6,30,000			
7,500 × Rs. 105		7,87,500		
8,500 × Rs. 105			8,92,500	
	6,30,000	7,87,500	8,92,500	23,10,000
Cost of sales:				
6,000 × Rs. 75	(4,50,000)			
7,500 × Rs. 75		(5,62,500)		
8,500 × Rs. 75		(6,37,500)	(16,50,000)	
Gross profit	1,80,000	2,25,000	2,55,000	6,60,000

PROBLEM NO: 6

Flexible Budget

Activity level	50%	75%	100%
Production (units)	3,200	4,800	6,400
Sales @ Rs. 40 per unit	1,28,000	1,92,000	2,56,000
Variable costs: -			
Direct materials	24,640	36,960	49,280

- Direct Labour	51,200	76,800	1,02,400
- Power	720	1,080	1,440
- Repairs etc.	850	1,275	1,700
- Miscellaneous	270	405	540
Total variable cost	77,680	1,16,520	1,55,360
Fixed Costs:			
- Manufacturing	20,688	20,688	20,688
- Administration, selling and distribution	3,600	3,600	3,600
Total costs	1,01,968	1,40,808	1,79,648
Profit	26,032	51,192	76,352

PROBLEM NO: 7

Expense Budget of RST Ltd. for the period

Particulars	Per unit (Rs.)	30,000 units	36,000 units
		Amount (Rs.)	Amount (Rs.)
Sales (A)	200.00	60,00,000	72,00,000
Less: Variable Costs:			
- Direct Material	82.50	24,75,000	29,70,000
- Direct Wages	27.50	8,25,000	9,90,000
- Variable Overheads	27.50	8,25,000	9,90,000
- Direct Expenses	16.50	4,95,000	5,94,000
- Variable factory expenses (75% of Rs. 20 p.u.)	16.50	4,95,000	5,94,000
- Variable Selling & Dist. exp. (80% of Rs. 10 p.u.)	8.80	2,64,000	3,16,800
Total Variable Cost (B)	179.30	53,79,000	64,54,800
Contribution (C) = (A - B)	20.70	6,21,000	7,45,200
Less: Fixed Costs:			
- Office and Admin. exp. (100%)	--	1,72,500	1,72,500
- Fixed factory exp. (25%)	--	1,72,500	1,72,500
- Fixed Selling & Dist. exp. (20%)	--	69,000	69,000
Total Fixed Costs (D)	--	4,14,000	4,14,000
Profit (C - D)	--	2,07,000	3,31,200

PROBLEM NO: 08

Statement showing lowest Price to be quoted

Particulars	Current Year		Budgeted Year	
	Per Units	Amount	Per Units	Amount
Variable Cost:				
Direct Material	150	7,50,000 (5,000 x 150)	157.5 (15+5%)	11,02,500 (7,000 x 157.5)
Direct Wages	50	2,50,000 (5,000 x 50)	60 (50+20%)	4,20,000 (7,000 x 60)
Variable Work's Overheads	62.5 (125 x 5%)	3,12,500 (5,000 x 62.5)	62.5	4,37,500 (7,000 x 62.5)
Variable Selling Expenses	12.5 (50 x 25%)	62,500 (5,000 x 12.5)	12.5	87,500 (7,000 x 12.5)
Fixed Cost				
Fixed Work's Overheads	62.5	3,12,500	49.1	3,43,750

		(5,000 x 62.5)		(3,12,500+10%)
Fixed Selling Expenses	37.5 (50 x 75%)	1,87,500 (5,000 x 37.5)	29.46	2,06,250 (1,87,500+10%)
Total Cost	**375**	**18,75,000**	**371**	**25,97,500**
Profit	125	6,25,000 (125 X 5,000)		6,25,000
Sales	**500**	**25,00,000**		**32,22,500**
(–) Sales from 5,000 units (5,000 x 500)				25,00,000
Sales from Additional 2,000 Units				7,22,500

Lowest Price for the 2,000 units = $\frac{7,22,500}{2,000}$ = Rs. 361.25

PROBLEM NO: 9

Maximum Capacity in a budget period = 60 Employees × 8 Hrs.× 5 Days × 4 Weeks = 9,600 Hrs.

Budgeted Hours = 50 Employees ×8 Hrs.×5 Days×4 Weeks= 8,000 Hrs.

Actual Hrs. = 7,500 Hrs. (given)

Standard Hrs. for Actual Output = 8,800 Hrs.

Budget No. of Days = 20 Days = 20 Days (4 Weeks x 5 Days)

Actual No. of Days = 20 - 1 = 19 Days

Efficiency Ratio = $\frac{\text{Standard Hours}}{\text{Actual Hours}} X\ 100 = \frac{8800}{7500} x\ 100 = 117.33\%$

Activity Ratio = $\frac{\text{Standard Hours}}{\text{Budgeted Hours}} X\ 100 = \frac{8800}{8000} x100 = 110\%$

Standard Capacity Usage Ratio = $\frac{\text{Budgeted Hours}}{\text{Max. possible Hours in the budgeted period}} X\ 100 = \frac{8000}{9600} x100 = 83.33\%$

Actual Capacity Usage Ratio = $\frac{\text{Actual Hours worked}}{\text{Max. possible working in a period}} X\ 100 = \frac{7500}{9600} x100 = 78.125\%$

Actual usage of Budgeted Capacity Ratio = $\frac{\text{Actual Hours worked}}{\text{Budgeted Hours}} X\ 100 = \frac{7500}{8000} x100 = 93.75\%$

THE END