UNIT - 5

Module – 8

Budgets & Budgetary Control

Practical Problems (with solutions)

Flexible Budget

(1) Prepare a Flexible budget for overheads on the basis of the following data. Ascertain the overhead rates at 50% and 60% capacity.

Variable overheads:	At 60% capacity (Rs)
Indirect Material	6,000
Labour	18,000
Semi-variable overheads:	
Electricity: (40% Fixed & 60% variable)	30,000
Repairs: (80% fixed & 20% Variable)	3,000
Fixed overheads:	
Depreciation	16,500
Insurance	4,500
Salaries	15,000
Total overheads	93,000
Estimated direct labour hours	1,86,000

Solution:

Flexible Budget

Items	**Capacity**	
	50%	**60%**
Variable overheads:	**Rs.**	**Rs.**
Material	5,000	6,000
Labour	15,000	18,000
Semi-variable		
Electricity	27,000	30,000

Repairs	2,900	3,000
Fixed overheads:		
Deprecation	16,500	16,500
Insurance	4500	4500
Salaries	15,000	15,000
Total Overheads	85,900	93,000
Estimated direct labour hours	1,55,000	1,86,000
Overhead Rate	0.55	0.50

Working Note:

Electricity

At 50% capacity = $\frac{18,000 * 50}{60}$

= Rs. 15,000

Rs. 12,000 + Rs. 15,000 = Rs. 27,000

60% capacity = Rs 18,000 + Rs. 12,000 = Rs. 30,000

Repairs

For 60% capacity = Rs.600

=Rs. 2400 + Rs.600 =Rs.3,000

At 50% capacity : = 600/60 * 50

= RS. 500

=Rs.2400 + 500

=Rs.2,900

(2) Prepare a flexible budget for overheads on the basis of the following data. Ascertain the overhead rates at 60% and 70% capacity.

Variable overheads:	At 60% capacity(Rs)
Material	6,000
Labour	18,000
Semi-variable overheads:	
Electricity:	30,000
40% Fixed	
60% variable	
Repairs:	
80% fixed	3,000
20% Variable	3,000
Fixed overheads:	
Depreciation	16,500
Insurance	4,500
Salaries	15,000
Total overheads	93,000
Estimated direct labour hours	1,86,000

Solution:

Working:

Repairs

For 60% capacity Fixed 80/100 * 3,000 = Rs.2400

Variable = 20/100 * 3,000 = Rs. 600

=Rs. 2400 + Rs.600 =Rs.3,000

Electricity Exp.:

At 60% capacity Fixed= 40/100 *30,000 = 12,000

Variable = 60/100 * 30,000= 18,000

At 70% capacity: Fixed = 40/100 * 30,000 = Rs. 12,000

Variable = 18,000/60 *70 = Rs. 21,000

Total Rs. =33,000

Flexible Budget

Items	**Capacity**	
	60%	**70%**
Variable overheads:	**Rs.**	**Rs.**
Material	6,000	7,000
Labour	18,000	21,000
Semi-variable		
Electricity	30,000	33,000
Repairs	3,000	3,100
Fixed overheads:		
Deprecation	16,500	16,500
Insurance	4,500	4,500
Salaries	15,000	15,000
Total Overheads	93,000	1,00,100
Estimated direct labour hours	1,86,000	2,17,000
Overhead Rate	0.50	0.46

(3) The expenses budgeted for production of 1,000 units in a factory are furnished below:

Particulars	**Per Unit Rs.**
Material Cost	700
Labour Cost	250
Variable overheads	200
Selling expenses (20% fixed)	130
Administrative expenses (Rs. 2,00,000)	200
Total Cost	1,480

Prepare a budget for production of 600 units and 800 units assuming administrative expenses are rigid for all level of production.

Solution:

Flexible Budget

Particulars	**For 600 units**		**For 800 units**	
	Per unit Rs.	**Total Rs.**	**Per unit Rs.**	**Total Rs.**
Variable Cost:				
Materials	700	4,20,000	700	5,60,000
Labour	250	1,50,000	250	2,00,000
Variable overheads	200	1,20,000	200	1,60,000
(A)	**1,150**	**6,90,000**	**1,150**	**9,20,000**
Semi variable cost:				
Variable selling expenses	104	62,400	104	83,200
Fixed selling expenses	43.33	26,000	32.50	26,000
(B)	**147.33**	**88,400**	**136.50**	**1,09,200**
Fixed cost:				
Administrative expenses	333.33	2,00,000	250.00	2,00,000
Total Cost(A+B+C)	**1,630.66**	**9,78,400**	**1,536.50**	**12,29,200**

(4) The budgeted output of a industry specializing in the production of a one product at the optimum capacity of 6,400 units per annum amounts to Rs. 1,76,048 as detailed below:

Particulars	Rs.	Rs.
Fixed costs		20,688
Variable costs:		
Power	1,440	
Repairs etc.	1,700	
Miscellaneous	540	
Direct material	49,280	
Direct Labour	1,02,400	1,55,360
Total cost		1,76,048

The company decides to have a flexible budget with a production target of 3,200 and 4,800 units (the actual quantity proposed to be produced being left to a later date before commencement of the budget period)

Prepare a flexible budget for production levels of 50% and 75%. Assuming, selling price per unit is maintained at Rs. 40 as at present, indicate the effect on net profit.

Administrative , selling and distribution expenses continue at Rs.3,600.

Solution:

The production at 100% capacity is 6400 units, so it will be 3,200 units at 50% and 4,800 units at 75% capacity. The variable expenses will change in that proportion.

Flexible Budget

Particulars	100%	75%	50%
(i)Sales (per unit Rs.40)	2,56,000	1,92,000	1,28,000
Cost of Sales:			

(a)variable costs:			
Direct material	49,280	36,960	24,640
Direct Labour	1,02,400	76,800	51,200
Power	1,440	1,080	720
Repairs	1,700	1,275	850
Miscellaneous	540	405	270
Total variable costs	**1,55,360**	**1,16,520**	**77,680**
(b)Fixed Costs:	20,688	20,688	20,688
(ii) Total Costs	**1,76,048**	**1,37,208**	**98,368**
Gross Profit(i)- (ii)	**79,952**	**54,792**	**29,632**
Less: Adm., selling and Dist. Costs	3,600	3,600	3,600
Net Profit	**76,352**	**51,192**	**26,032**

(5) A factory engaged in manufacturing plastic buckets is working at 40% capacity and produces 10,000 buckets per month.

The present cost break up for one bucket is as under:

Materials Rs.10

Labour Rs.3

Overheads Rs.5 (60% fixed)

The selling price is Rs.20 per bucket. If it is desired to work the factory at 50% capacity the selling price falls by 3%. At 90% capacity the selling price falls by 5% accompanied by a similar fall in the price of material.

You are required to prepare a statement the profit at 50% and 90% capacities and also calculate the break- even points at this capacity production.

Solution

Flexible Budget

Particulars	**Capacity**		
	40%	**50%**	**90%**
Production and sales units	10,000	12,500	22,500
Sales price per unit	20	19.40	19.00
Sales Amount	2,00,000	2,42,500	4,27,500
Marginal Cost:			
Material: Rs.10 per unit(at 90% - Rs.9.50 per unit)	1,00,000	1,25,000	2,13,750
Labour	30,000	37,500	67,500
Variable overhead	20,000	25,000	45,000
Total	**1,50,000**	**1,87,500**	**3,26,250**
Contribution	50,000	55,000	1,01,250
Less: Fixed Cost	30,000	30,000	30,000
Profit	20,000	25,000	71,250
Contribution per unit	5	4.40	4.50
BEP (units) (F /C)	**6,000**	**6,818**	**6,667**

CASH BUDGET

(1) Saurashtra Co. Ltd. wishes to arrange overdraft facilities with its bankers from the period August to October 2010 when it will be manufacturing mostly for stock. Prepare a cash budget for the above period from the following data given below:

Month	Sales (Rs.)	Purchases (Rs.)	Wages (Rs.)	Mfg. Exp. (Rs.)	Office Exp. (Rs.)	Selling Exp. (Rs.)
June	1,80,000	1,24,800	12,000	3,000	2,000	2,000
July	1,92,000	1,44,000	14,000	4,000	1,000	4,000
August	1,08,000	2,43,000	11,000	3,000	1,500	2,000
September	1,74,000	2,46,000	12,000	4,500	2,000	5,000
October	1,26,000	2,68,000	15,000	5,000	2,500	4,000
November	1,40,000	2,80,000	17,000	5,500	3,000	4,500
December	1,60,000	3,00,000	18,000	6,000	3,000	5,000

Additional Information:

(a) Cash on hand 1-08-2010 Rs.25,000.

(b) 50% of credit sales are realized in the month following the sale and the remaining 50% in the second month following. Creditors are paid in the month following the month of purchase.

(c) Lag in payment of manufacturing expenses half month.

(d) Lag in payment of other expenses one month.

Solution:

CASH BUDGET

For 3 months from August to October 2010

Particulars	**August (Rs.)**	**September (Rs.)**	**October (Rs.)**
Receipts:			
Opening balance	25,000	44,500	(66,750)
Sales	1,86,000	1,50,000	1,41,000
Total Receipts(A)	2,11,000	1,94,500	74,250
Payments:			
Purchases	1,44,000	2,43,000	2,46,000
Wages	14,000	11,000	12,000
Mfg. Exp.	3,500	3,750	4,750
Office Exp.	1,000	1,500	2,000
Selling Exp.	4,000	2,000	5,000
Total payments(B)	1,66,500	2,61,250	2,69,750
Closing Balance(A-B)	**44,500**	**(66,750)**	**(1,95,500)**

Working Note:

1. Manufacturing Expense:

Particular	August	September	October
July (4000/2)	2000	---	---
August (3000/2)	1500	1500	---
September (4500/2)	---	2250	2250
October (5000/2)	---	----	2500
Total	3500	3750	4750

2. Sales

Particular	August	September	October
June (180000/2)	90000	---	---
July (192000/2)	96000	96000	---
August (108000/2)	---	54000	54000
September (174000/2)	---	----	87000
Total	186000	150000	141000

(2) S. K. Brothers wish to approach the bankers for temporary overdraft facility for the period from October 2010 to December 2010. During the period of this period of these three months, the firm will be manufacturing mostly for stock. You are required to prepare a cash budget for the above period.

Month	**Sales (Rs.)**	**Purchases (Rs.)**	**Wages (Rs.)**
August	3,60,000	2,49,600	24,000
September	3,84,000	2,88,000	28,000
October	2,16,000	4,86,000	22,000
November	3,48,000	4,92,000	20,000
December	2,52,000	5,36,000	30,000

(a) 50% of credit sales are realized in the month following the sales and remaining 50% in the second following.

(b) Creditors are paid in the month following the month of purchase

(c) Estimated cash as on 1-10-2010 is Rs.50,000.

CASH BUDGET

For 3 months from October to December 2010

Particulars	**October (Rs.)**	**November(Rs.)**	**December(Rs.)**
Receipts:			
Opening balance	50,000	1,12,000	(94,000)
Collection from Debtors	3,72,000	3,00,000	2,82,000
Total Receipts(A)	4,22,000	4,12,000	1,88,000
Payments:			
Payments to Creditors	2,88,000	4,86,000	4,92,000
Wages	22,000	20,000	30,000
Total payments(B)	3,10,000	5,06000	5,22,000
Closing Balance(A-B)	**1,12,000**	**(94,000)**	**-3,34,000**

Working Note : **Collection from debtors**

Particulars	**October (Rs.)**	**November(Rs.)**	**December(Rs.)**
Sales			
August	1,80,000		-
September	1,92,000	1,92,000	-
October	-	1,08,000	1,08,000
November	-		1,74,000
	3,72,000	3,00,000	2,82,000

(3) TATA Co. Ltd. is to start production on 1st January 2011. The prime cost of a unit is expected to be Rs. 40 (Rs. 16 per materials and Rs. 24 for labour). In addition, variable expenses per unit are expected to be Rs. 8 and fixed expenses per month Rs. 30,000. Payment for materials is to be made in the month following the purchase. One-third of sales will be for cash and the rest on credit for settlement in the following month. Expenses are payable in the month in which they are incurred. The selling price is fixed at Rs. 80 per unit. The number of units to be produced and sold is expected to be:

January 900; February 1200; March 1800; April 2000; May 2,100 June 2400

Draw a Cash Budget indicating cash requirements from month to month.

CASH BUDGET of TATA LTD.
For 6 months from January to June 2011

Month	**Jan.**	**Feb.**	**March**	**April**	**May**	**June**
Receipts						
Opening Balance		(34,800)	(37,600)	(32,400)	(5,867)	(27,600)
Cash sales	24,000	32,000	48,000	53,333	56,000	64,000
Collection from Debtors		48,000	64,000	96,000	1,06,667	1,12,000
Total receipts(A)	24,000	45,200	74,400	1,16,933	1,56,800	1,48,400
Payments						
Creditors		14,400	19,200	288,00	32,000	33,600
Wages	21,600	28,800	43,200	48,000	50,400	57,600
Variable Exp.	7,200	9,600	14,400	16,000	16,800	19,200
Fixed Exp.	30,000	30,000	30,000	30,000	30,000	30,000
Total Payment(B)	58,800	82,800	1,06,800	1,22,800	1,29,200	1,40,400
Closing Balance	**-34,800**	**-37600**	**-32400**	**-5867**	**-27,600**	**8,000**

(4) Prepare a Cash Budget from the data given below for a period of six months (July to December)

(1) Month	Sales	Raw Materials
May	75,000	37,500
June	75,000	37,500
July	1,50,000	52,500
August	2,25,000	3,67,500
September	3,00,000	1,27,500
October	1,50,000	97,500
November	1,50,000	67,500
December	1,37,500	____

(2) Collection estimates:

- Within the month of sale: 5%
- During the month following the sale: 80%
- During the second month following the sale: 15%

(3) Payment for raw materials is made in the next month.

(4)Salary Rs. 11,250, Lease payment Rs. 3750, Misc. Exp. Rs. 1150, are paid each month

(5) Monthly Depreciation Rs. 15,000

(6) Income tax Rs. 26,250 each in September and December.

(7)Payment for research in October Rs.75,000

(8) Opening Balance on 1st July Rs.55,000.

CASH BUDGET

For the six months from July to December

Particulars	**July**	**Aug.**	**Sep.**	**October**	**Nov.**	**December**
Receipts						
Opening Balance	55,000	80,100	1,53,950	-38450	24150	83000
Collection from Debtors	78,750	1,42,500	2,17,500	2,81,250	1,725,00	1,49,375
Total receipts(A)	1,33,750	2,22,600	3,71,450	2,42,800	1,96,650	2,32,375
Payments						
Payment to suppliers	37,500	52,500	3,67,500	1,27,500	97,500	67,500
Salary	11,250	11,250	11,250	11,250	11,250	11,250
Lease payment	3750	3750	3750	3750	3750	3750
Misc. expense	1,150	1,150	1,150	1,150	1,150	1,150
Income tax			26,250			26,250
Payment for Research				75,000		
Total Payment(B)	53,650	68,650	4,09,900	2,18,650	1,13,650	1,09,900
Closing Balance	**80,100**	**1,53,950**	**-38,450**	**24,150**	**83,000**	**1,22,475**

Note: Depreciation is a non-cash item. It does not involve cash flow. Hence, depreciation will not be considered as payment through cash.

(5) Prepare a cash Budget of R.M.C. LTD. for April, May and June 2012:

Months	**Sales(Rs.)**	**Purchases(Rs.)**	**Wages(Rs.)**	**Expenses(Rs.)**
Jan.(Actual)	80,000	45,000	20,000	5,000
Feb.(Actual)	80,000	40,000	18,000	6,000
March (Actual)	75,000	42,000	22,000	6,000
April (Budget)	90,000	50,000	24,000	7,000
May(Budget)	85,000	45,000	20,000	6,000
June(Budget)	80,000	35,000	18,000	5,000

Additional Information:

(i) 10% of the purchases and 20% of sales are for cash.

(ii) The average collection period of the company is ½ month and the credit purchases are paid regularly after one month.

(iii) Wages are paid half monthly and the rent of Rs. 500 included in expenses is paid monthly and other expenses are paid after one month lag.

(iv) Cash balance on April 1,2012 may be assumed to be Rs.15,000

CASH BUDGET

(For the months ending April, May & June 2012)

Particulars	**April (Rs.)**	**May (Rs.)**	**June (Rs.)**
Receipts			
Opening Balance	15,000	27,200	35,700
Cash Sales	18,000	17,000	16,000
Collection from Debtors	66,000	70,000	66,000
Total Receipts(A)	99,000	1,14,200	1,17,700
Payments			
Cash Purchases	5,000	4,500	3,500
Payment to creditors	37,800	45,000	40,500
Wages	23,000	22,000	19,000
Rent	500	500	500
Other Exp.	5,500	6,500	5,500
Total Payments(B)	71,800	78,500	69,000
Closing balance	**27,200**	**35,700**	**48,700**