# Illustration 1:

# The expenses for the production of 5,000 units in a factory are given as follows:

| | *Per unit ₹* |
|---|---|
| Materials | 50 |
| Labour | 20 |
| Variable Overheads | 15 |
| Fixed Overheads (₹ 50,000) | 10 |
| Administrative expenses (5% variable) | 10 |
| Selling expenses (20% Fixed) | 6 |
| Distribution expenses (10% Fixed) | 5 |
| Total cost of sales per unit | ₹ 116 |

You are required to prepare a budget for the production of 7,000 units.

**Solution :**

| **Flexible Budget** | | | | |
|---|---|---|---|---|
| ***Particulars*** | ***Output 5,000 Units*** | | ***Output 7,000 Units*** | |
| | ***Per Unit*** ₹ | ***Amount*** ₹ | ***Per Unit*** ₹ | ***Amount*** ₹ |
| Materials | 50.00 | 2,50,000 | 50.00 | 3,50,000 |
| Labour | 20.00 | 1,00,000 | 20.00 | 1,40,000 |
| Prime Cost | 70.00 | 3,50,000 | 70.00 | 4,90,000 |
| Factory Overheads : | | | | |
| Variable Overheads | 15.00 | 75,000 | 15.00 | 1,05,000 |
| Fixed Overheads | 10.00 | 50,000 | 7.14 | 50,000 |
| Works Cost | 95.00 | 4,75,000 | 92.14 | 6,45,000 |
| Administrative Expenses | 10.00 | 50,000 | 7.28 | 51,000 |
| Cost of Production | 105.00 | 5,25,000 | 99.42 | 6,96,000 |
| Selling & Distribution Expenses : | | | | |
| Selling Expenses | 6.00 | 30,000 | 5.66 | 39,600 |
| Distribution Expenses | 5.00 | 25,000 | 4.86 | 34,000 |
| Total Cost of Sales | 116.00 | 5,80,000 | 109.94 | 7,69,600 |

# Illustration 2:

# The following information at 50% capacity is given. Prepare a flexible budget and forecast the profit or loss at 60%, 70% and 90% capacity.

| | *Expenses at 50% capacity* |
|---|---|
| | ₹ |
| Fixed Expenses : | |
| Salaries | 50,000 |
| Rent and Taxes | 40,000 |
| Depreciation | 60,000 |
| Administrative Expenses | 70,000 |
| Variable Expenses : | |
| Materials | 2,00,000 |
| Labour | 2,50,000 |
| Others | 40,000 |
| Semi-Variable Expenses : | |
| Repairs | 1,00,000 |
| Indirect Labour | 1,50,000 |
| Others | 90,000 |

It is estimated that fixed expenses will remain constant at all capacities. Semi-Variable expenses will not change between 45% and 60% capacity, will rise by 10% between 60% and 75% capacity, a further increase of 5% when capacity crosses 75%.

Estimated sales at various levels of capacity are :

| *Capacity* | *Sales (₹)* |
|---|---|
| 60% | 11,00,000 |
| 70% | 13,00,000 |
| 90% | 15,00,000 |

**Solution :**

**Flexible Budget**

*(Showing Profit & Loss at Various Capacities)*

| *Particulars* | *Capacities* | | | |
|---|---|---|---|---|
| | *50%* | *60%* | *70%* | *90%* |
| Fixed Expenses : | ₹ | ₹ | ₹ | ₹ |
| Salaries | 50,000 | 50,000 | 50,000 | 50,000 |
| Rent & Taxes | 40,000 | 40,000 | 40,000 | 40,000 |
| Depreciation | 60,000 | 60,000 | 60,000 | 60,000 |
| Administrative Expenses | 70,000 | 70,000 | 70,000 | 70,000 |
| Variable Expenses : | | | | |
| Materials | 2,00,000 | 2,40,000 | 2,80,000 | 3,60,000 |
| Labour | 2,50,000 | 3,00,000 | 3,50,000 | 4,50,000 |
| Others | 40,000 | 48,000 | 56,000 | 72,000 |
| Semi-Variable Expenses : | | | | |
| Repairs | 1,00,000 | 1,00,000 | 1,00,000 | 1,15,000 |
| Indirect labour | 1,50,000 | 1,50,000 | 1,65,000 | 1,72,500 |
| Others | 90,000 | 90,000 | 99,000 | 1,03,500 |
| Total Cost | 10,50,000 | 11,48,000 | 12,80,000 | 14,93,000 |
| Profit (+) or Loss (–) | | – 48,000 | + 20,000 | + 7,000 |
| Estimated Sales | | 11,00,000 | 13,00,000 | 15,00,000 |

**Illustration 3:**

**The following information relates to a flexible budget at 60% capacity. Find out the overhead costs at 50% and 70% capacity and also determine the overhead rates:**

| | *Expenses at 60% Capacity* ₹ |
|---|---|
| Variable Overheads : | |
| Indirect Labour | 10,500 |
| Indirect Materials | 8,400 |
| Semi-Variable Overheads : | |
| Repairs and Maintenance (70% fixed, 30% variable) | 7,000 |
| Electricity (50% fixed, 50% variable) | 25,200 |
| Fixed Overheads : | |
| Office expenses including salaries | 70,000 |
| Insurance | 4,000 |
| Depreciation | 20,000 |
| Estimated direct labour hours | 1,20,000 |

**Solution :**

**Flexible Budget & Overhead Rates**

| *Particulars* | *50% Capacity* ₹ | *60% Capacity* ₹ | *70% Capacity* ₹ |
|---|---|---|---|
| Variable Overheads : | | | |
| Indirect Labour | 8,750 | 10,500 | 12,250 |
| Indirect Materials | 7,000 | 8,400 | 9,800 |
| Semi-Variable Overheads : | | | |
| Repairs and Maintenance (1) | 6,650 | 7,000 | 7,350 |
| Electricity (2) | 23,100 | 25,200 | 27,300 |
| Fixed Overheads : | | | |
| Office expenses including salaries | 70,000 | 70,000 | 70,000 |
| Insurance | 4,000 | 4,000 | 4,000 |
| Depreciation | 20,000 | 20,000 | 20,000 |
| Total Overheads | 1,39,500 | 1,45,100 | 1,50,700 |
| Estimated direct labour hours | 1,00,000 | 1,20,000 | 1,40,000 |
| Overhead Rate | 1.395 | 1.21 | 1.077 |

**Working Notes :**

(1) Repairs and maintenance amount to ₹ 7,000 at 60% capacity. Out of this 70% (*i.e., ₹ 4,900) is fixed and 30%* (i.e., 2,100) is variable. ₹ 4,900 will remain the same at the all capacities while variable part will vary. Variable cost at 50% capacity will be $\left(\frac{2,100}{60}\times 70\right)$ ₹ 1,750 and at 70% capacity $\left(\frac{2,100}{60}\times 50\right)$ ₹ 2,450. So total expenditure will be (4,900 + 1,750) ₹ 6,650 and (4,900 + ₹ 2,450) ₹ 7,350 at 50% and 70% capacities respectively.

(2) Electricity at 60% capacity is ₹ 25,200, of which 50% part (*i.e.*, ₹ 12,600) is fixed and 50% is variable. ₹ 12,600 (fixed) will be the same at all capacitiies but variables will be : at 50% capacity $\left(\frac{12,600}{60}\times 50\right)$ ₹ 10,500 and at 70% capacity $\left(\frac{12,600}{60}\times 70\right)$ ₹ 14,700. Total electricity cost will be (12,600 + 10,500) ₹ 23,100 and (12,600 + 14,700) ₹ 27,300 at 50% and 70% capacities respectively.

**Illustration 4.** With the following data for a 60% activity, prepare a budget for production at 80% and 100% capacity :

| | |
|---|---|
| Production at 60% activity | 600 units |
| Materials | ₹ 100 per unit |
| Labour | ₹ 40 per unit |
| Direct Expenses | ₹ 10 per unit |
| Factory overheads | ₹ 40,000 (40% fixed) |
| Administration Expenses | ₹ 30,000 (60% fixed) |

**Solution :**

**Flexible Production Budget**

| | *60% Capacity 600 Units* | | *80% Capacity 800 Units* | | *100% Capacity 1,000 Units* | |
|---|---|---|---|---|---|---|
| | *Unit Cost* ₹ | *Total Cost* ₹ | *Unit Cost* ₹ | *Total Cost* ₹ | *Unit Cost* ₹ | *Total Cost* ₹ |
| Materials | 100 | 60,000 | 100 | 80,000 | 100 | 1,00,000 |
| Labour | 40 | 24,000 | 40 | 32,000 | 40 | 40,000 |
| Direct Expenses | 10 | 6,000 | 10 | 8,000 | 10 | 10,000 |
| Prime Cost | 150 | 90,000 | 150 | 1,20,000 | 150 | 1,50,000 |
| Factory Overheads : | | | | | | |
| Fixed (40% of ₹ 40,000) | 26.67 | 16,000 | 20 | 16,000 | 16 | 16,000 |
| Variable | 40 | 24,000 | 40 | 32,000 | 40 | 40,000 |
| Works Cost | 216.67 | 1,30,000 | 210 | 1,68,000 | 206 | 2,06,000 |
| Administrative Expenses : | | | | | | |
| Fixed : (60% of ₹ 30,000) | 30 | 18,000 | 22.50 | 18,000 | 18 | 18,000 |
| Variable | 20 | 12,000 | 20 | 16,000 | 20 | 20,000 |
| Total cost | 266.67 | 1,60,000 | 252.50 | 2,02,000 | 244 | 2,44,000 |