**Estimation of Working Capital Requirements**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **I** | **Current Assets :** | **Amount** | **Amount** | **Amount** |
|  | Minimum Cash Balance |  | \*\*\*\* |  |
|  | Inventories : |  |  |  |
|  | Raw Materials | \*\*\*\* |  |  |
|  | Work-in-progress | \*\*\*\* |  |  |
|  | Finished Goods | \*\*\*\* | \*\*\*\* |  |
|  | Receivables : |  |  |  |
|  | Debtors | \*\*\*\* |  |  |
|  | Bills | \*\*\*\* | \*\*\*\* |  |
|  | Gross Working Capital (CA) |  | \*\*\*\* | \*\*\*\* |
| **II.** | **Current Liabilities :** |  |  |  |
|  | Creditors for Purchases |  | \*\*\*\* |  |
|  | Creditors for Wages |  | \*\*\*\* |  |
|  | Creditors for Overheads |  | \*\*\*\* |  |
|  | Total Current Liabilities (CL) |  | \*\*\*\* | \*\*\*\* |
|  | Excess of CA over CL |  |  | \*\*\*\* |
|  | + Safety Margin |  |  | \*\*\*\* |
|  | **Net Working Capital** |  |  | \*\*\*\* |

The following points are also worth noting while estimating the working capital requirement :

* 1. **Depreciation :** An important point worth noting while estimating the working capital requirement is the depreciation on fixed assets. The depreciation on the fixed assets, which are used in the production process or other activities, is not considered in working capital estimation. The depreciation is a non-cash expense and there is no funds locked up in depreciation as such and therefore, it is ignored. Depreciation is neither included in valuation of work-in-progress nor in finished goods. The working capital calculated by ignoring depreciation is known as cash basis working capital. In case, depreciation is included in working capital calculations, such estimate is known as total basis working capital.
  2. **Safety Margin :** Sometimes, a firm may also like to have a safety margin of working capital in order to meet any contingency. The safety margin may be expressed as a % of total current assets or total current liabilities or net working capital. The safety margin, if required, is incorporated in the working capital estimates to find out the net working capital required for the firm. There is no hard and fast rule about the quantum of safety margin and depends upon the nature and characteristics of the firm as well as of its current assets and current liabilities.

**Points to Remember**

* + Every firm must estimate in advance as to how much net working capital will be required for the smooth operations of the business.
  + Working capital estimates may be made on the basis of (*i*) As a % of net sales, (*ii*) As a % of total assets or fixed assets and (*iii*) operating cycle of the firm.
  + In the operating cycle method, the working capital requirement is ascertained by finding out the need for cash, for raw materials, for work in progress, for finished goods and for debtors. However, if the credit is allowed by creditors or others then it is deducated to find out the net working capital requirement.
  + At the work in progress stage, the three elements is RM, wages and expenses are estimated separately.
  + Unless given otherwise, 100% RM is assumed to introduced in the production process in the beginning, but wages and expenses are assumed to accrue evenly throughout the production process.
  + The requirement for finished goods and work in progress is taken at cash cost only and the amount of depreciation is ignored.
  + The debtors (receivables) may be taken at cash cost or selling price. But it is better to take the debtors at cash cost because that shows the funds required for financing of working capital.
  + While finding out the working capital requirement, the firm should also include a safety margin to take care of the contingencies.

*Prob 1.ABC Ltd. expects its cost of goods sold for 2000-2001 to be Rs. 600 lacs. The expected operating cycle is 90 days. It wants to keep a minimum cash balance of Rs. one lac. What is the expected working capital requirement? Assume a year consists of 360 days.*

**Solution :**

**Working Capital Requirement:**

|  |  |  |  |
| --- | --- | --- | --- |
| Cash balance | = | Rs. 1,00,000 | |
| Working Capital for Cost of goods sold | = | 600,00,000 | × 90 |
| 360 |
|  | = | Rs. 150,00,000 | |
| Total Working Capital | = | Rs. 151,00,000 | |

|  |  |
| --- | --- |
| ***Prob2.****Find out the working capital requirement from the following information :* | |
| *Production during the year* | *60,000 units* |
| *Selling Price* | *Rs. 5 per unit.* |
| *Raw Material* | *60%* |
| *Wages* | *10%* |
| *Overheads* | *20%* |
| *Raw Material storage period* | *2 months* |
| *Work in process storage period* | *1 months* |
| *Finished goods storage period* | *3 months* |
| *Credit allowed by suppliers* | *2 months* |
| *Credit allowed to customers* | *3 months* |
| *Minimum cash balance desired* | *Rs. 20,000* |
| *Wages and overheads payment* | *1 month* |

**Solution:**

|  |  |  |
| --- | --- | --- |
| Production per month | (60,000÷12) | 5,000 units |
| Selling Price |  | Rs. 5.00 per unit |
| Raw Material | (60%) | Rs. 3.00 per unit |
| Wages | (10%) | Rs. 0.50 per unit |
| Overheads | (20%) | Rs. 1.00 per unit |

**Estimation of working capital requirement**

|  |  |  |  |
| --- | --- | --- | --- |
| **I. Current Assets:** |  | **Amount** | **Amount** |
| Cash Balance |  | Rs. 20,000 |  |
| Raw Material | (5,000 × Rs. 3 × 2) | 30,000 |  |
| Work in Process: |  |  |  |
|  | Raw Material | (5000 × Rs 3 × 1) | 15,000 |
|  | Wages | (5000 × Rs. 0.50 × 1)50% | 1,250 |
|  | Overheads | (5,000 × Rs. 1 × 1)50% | 2,500 |
| Finished good | (5000 × Rs. 4.50 × 3) | 67,500 |  |
| Debtors | (5,000 × Rs. 4.50 × 3) | 67,500 |  |
| Gross Working Capital |  | 2,03,750 | Rs. 2,03,750 |
| **II. Current Liabilities :** |  |  |  |
|  | Creditors | (5,000 × Rs. 3 × 2) | 30,000 |
|  | Wages | (5,000 × Rs. 0.50 × 1) | 2,500 |
|  | Overheads | (5,000 × Rs. 1 × 1) | 5,000 |
| Total Current Liabilities |  | 37,500 | 37,500 |
| Net Working Capital | (CA–CL) |  | 1,66,250 |

***Prob 3.****Prepare an estimate of networking capital requirement of Zero company from the data given below:*

|  |  |  |
| --- | --- | --- |
|  | ***Estimated Cost per Unit of Production*** | ***Amount per Unit (Rs. )*** |
|  | *Raw Materials* | *100* |
|  | *Direct Labour* | *40* |
|  | *Overheads* | *80* |
|  |  | *220* |

*The following is the additional information:*

|  |  |
| --- | --- |
| *Selling price per unit* | *Rs. 240* |
| *Level of activity* | *1,04,000 units per annum* |
| *Raw Materials in stock* | *average 4 weeks* |
| *Work in progress [Assume 100% stage of completion of materials and 50 per cent for labour and overheads]* | *average 2 weeks* |
| *Finished Goods in Stock* | *average 4 weeks* |
| *Credit allowed by Suppliers* | *average 4 weeks* |
| *Credit allowed to Debtors* | *average 8 weeks* |
| *Lag in payment of Wages* | *average 1 1/2 weeks.* |

*Cash at Bank is expected to be Rs. 25,000. Assume that production is sustained during 52 weeks of the year.*

**Solution:**

**Statement of working capital requirement**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **A.** | **Current Assets** | |  | **Amount (Rs. )** | **Amount (Rs. )** |
|  | Raw Materials | | (2000 × 4 × 100) |  | 8,00,000 |
|  | Work in Progress | |  |  |  |
|  |  | Raw Material | (2000 × 2 × 100) | 4,00,000 |  |
|  |  | Wages | (2000 × 2 × 40) 50% | 80,000 |  |
|  |  | Overheads | (2000 × 2 × 80) 50% | 1,60,000 | 6,40,000 |
|  |  | Finished Stock | (2000 × 4 × 220) |  | 17,60,000 |
|  |  | Debtors | (2000 × 8 × 220) |  | 35,20,000 |
|  |  | Cash |  |  | 25,000 |
|  |  | Total Current Assets (CA) |  |  | 67,45,000 |
| **B.** | **Current Liabilities** | |  |  |  |
|  |  | Creditors | (2000 × 4 × 100) |  | 8,00,000 |
|  |  | Outstanding Wages | (2000 × 40 × 1.5) |  | 1,20,000 |
|  |  | Total Current Liabilities (CL) |  |  | 9,20,000 |
| Net Working Capital (CA–CL) | | |  |  | 58,25,000 |

***Working Notes:***

(*i*) Annual production is 1,04,000 units and year is consisting of 52 weeks. So, the weekly production is 2000 units.

(*ii*) Debtors have been taken at cost of production.

***Prob 4.****The cost sheet of PQR Ltd. provides the following data :*

|  |  |
| --- | --- |
|  | ***Cost per unit*** |
| *Raw material* | *Rs. 50* |
| *Direct Labour* | *20* |
| *Overheads (including depreciation of Rs. 10)* | *40* |
| *Total cost* | *110* |
| *Profits* | *20* |
| *Selling price* | *130* |

*Average raw material in stock is for one month. Average material in work-in-progress is for half month. Credit allowed by suppliers: one month; credit allowed to debtors : one month. Average time lag in payment of wages: 10 days; average time lag in payment of overheads 30 days. 25% of the sales are on cash basis. Cash balance expected to be Rs. 1,00,000. Finished goods lie in the warehouse for one month.*

*You are required to prepare a statement of the working capital needed to finance a level of the activity of 54,000 units of output. Production is carried on evenly throughout the year and wages and overheads accrue similarly. State your assumptions, if any, clearly.*

**Solution :**

As the annual level of activity is given at 54,000 units, it means that the monthly turnover would be 54,000/12 = 4,500 units. The working capital requirement for this monthly turnover can now be estimated as follows :

**Estimation of Working Capital Requirement**

|  |  |  |  |
| --- | --- | --- | --- |
| **I.** | **Current Assets :** | **Amount** | **Amount** |
|  | Minimum Cash Balance | Rs. 1,00.000 |  |
|  | Inventories : |  |  |
|  | Raw Materials (4,500 × Rs. 50) | 2,25,000 |  |
|  | Work-in-progress : |  |  |
|  | Materials (4,500 × Rs. 50)/2 | 1,12,500 |  |
|  | Wages 50% of (4,500 × Rs. 20)/2 | 22,500 |  |
|  | Overheads 50% of (4,500 × Rs. 30)/2 | 33,750 |  |
|  | Finished Goods (4,500 × Rs. 100) | 4,50,000 |  |
|  | Debtors (4,500 × Rs. 100 × 75%) | 3,37,500 |  |
|  | **Gross Working Capital** | 12,81,250 | Rs. 12,81,250 |
| **II.** | **Current Liabilities :** |  |  |
|  | Creditors for Materials (4,500 × Rs. 50) | 2,25,000 |  |
|  | Creditors for Wages (4,500 × Rs. 20)/3 | 30,000 |  |
|  | Creditors for Overheads (4,500 × Rs. 30) | 1,35,000 |  |
|  | Total Current Liabilities | 3,90,000 | 3,90,000 |
|  | **Net Working Capital** |  | 8,91,250 |

***Working Notes :***

* 1. The Overheads of Rs. 40 per unit include a depreciation of Rs. 10 per unit, which is a non-cash item. This depreciation cost has been ignored for valuation of work-in-progress, finished goods and debtors. The overhead cost, therefore, has been taken only at Rs. 30 per unit.
  2. In the valuation of work-in-progress, the raw materials have been taken at full requirements for 15 days; but the wages and overheads have been taken only at 50% on the assumption that on an average all units in work-in-progress are 50% complete.
  3. Since, the wages are paid with a time lag of 10 days, the working capital provided by wages has been taken by dividing the monthly wages by 3 (assuming a month to consist of 30 days).

***Prob 5.****The following information has been extracted from the records of a Company : Product cost sheet*

|  |  |  |
| --- | --- | --- |
|  | *Raw Materials* | *Rs. 45* |
|  | *Direct Labour* | *20* |
|  | *Overheads* | *40* |
|  | *Total* | *105* |
|  | *Profit* | *15* |
|  | *Selling price* | *120* |

*–   Raw materials are in stock on an average for two months.*

*–   The materials are in process on an average for one month. The degree of completion is 50% in respect of all elements of cost.*

*–   Finished goods stock on an average is for one month.*

*–   Time lag in payment of wages and overheads is 1½ weeks.*

*–   Time lag in receipt of proceeds from debtors is 2 months.*

*–   Credit allowed by suppliers is one month.*

*–   20% of the output is sold against cash.*

*–   The company expects to keep a Cash balance of Rs. 1,00,000.*

*The Company is poised for a manufacture of 1,44,000 units in the next year.*

*You are required to prepare a statement showing the Working Capital requirements of the Company*

**Solution :**

**Statement showing the Working Capital requirement of the Company**

|  |  |  |
| --- | --- | --- |
| **Current Assets :** |  |  |
| Stock of Raw Materials (12,000 × 2 × Rs. 45) | Rs. 10,80,000 |  |
| Work-in-progress (12,000 × 1 × Rs. 105) × 50% | 6,30,000 |  |
| Finished Goods (12,000 × 1 × Rs. 105) | 12,60,000 |  |
| Debtors (12,000 × 2 × Rs. 105 × 80%) | 20,16,000 |  |
| Cash balances | 1,00,000 | 50,86,000 |
| **Current Liabilities :** |  |  |
| Creditors of Raw Materials (12,000 × 1 × Rs. 45) | 5,40,000 |  |
| Creditors for Wages & Overheads (12,000 × 60 ÷ 4) 1.5 | 2,70,000 | 8,10,000 |
| Net Working capital (C.A – C.L) |  | 42,76,000 |

***Working Notes :***

* 1. Finished goods and Debtors have been taken at cost.
  2. Production per month has been taken at 12,000 units. For payment of wages and overheads, month is taken as consisting of 4 weeks.

***Prob 6****XYZ Ltd. supplied the following information:*

|  |  |
| --- | --- |
| *Sales and Production for the year* | *69,000 units* |
| *Finished goods in store* | *3 months* |
| *Raw material in store* | *2 months consumption* |
| *Production process* | *1 month* |
| *Credit allowed by creditors* | *2 months* |
| *Selling price per unit* | *Rs. 50.00* |
| *Raw material* | *50% of Selling Price* |
| *Direct wages* | *10% of Selling Price* |
| *Overheads* | *20% of Selling Price* |

*20% Sales are on cash basis and credit sales allowed to customers for one month. Overheads include Rs. 5 as depreciation. There is regular production and Sale cycle and wages and overheads accrue evenly. Wages are paid in the next month of accrual and overheads are paid 15 days in arrears. Material is introduced in the beginning of Production cycle. You are required to find out its working capital requirement on cash cost basis.*

*[B.Com.(H.), D.U., 2014]*

**Solution :**

**Statement of Working Capital Requirement**

|  |  |  |
| --- | --- | --- |
| **I.** | **Current Assets :** |  |
|  | Raw Material (5,750×25×2) | Rs. 2,87,500 |
|  | Work-in-Progress (5,750×25×1) | 1,43,750 |
|  | Wages (5750×5×1) 50% | 14,375 |
|  | OH (5,750×5×1) 50% | 14,375 |
|  | Finished Goods (5,750×35×1) | 6,03,750 |
|  | Debtors (5,750×35×1) 80% | 1,61,000 |
|  | Total current Assets | 12,24,750 |
| **II.** | **Current Liabilities:** |  |
|  | Creditors (5,750×25×2) | Rs. 2,87,500 |
|  | Wages (5,750×5×1) | 28,750 |
|  | Overheads (5,750×5×1) | 14,375 |
|  | Total Current Liabilities | 3,30,625 |
|  | Net Working Capital (CA–CL) | Rs. 8,94,125 |
|  | ***Working Notes:*** |  |
|  | Monthly Production (6,90,000/12) | 5,750 units |
|  | Selling price | Rs. 50 |
|  | Raw Material(50%) | Rs. 25 |
|  | Direct wages (10%) | Rs. 5 |
|  | Overheads (20%) | Rs. 10 |
|  | Cash cost (Rs. 25+5+5) | Rs. 35 |

***Prob 7.****Following Information is provided by ABC Ltd. :*

|  |  |
| --- | --- |
| *Raw Material Storage Period* | *50 days* |
| *Work in Progress Storage Period* | *18 days* |
| *Finished Goods Storage Period* | *22 days* |
| *Debt Collection Period* | *45 days* |
| *Creditors Payment Period* | *55 days* |
| *Annual Operating Cost (including Depreciation of Rs. 2,10,000)* | *Rs. 21 lacs* |
| *Days in a year* | *360* |

*Find out : (i) Operating Cycle Period, (ii) No. of Operating Cycles in a year, and (iii) Working Capital Requirement on cash cost basis.*

**Solution :**

**Operating Cycle Period :**

OC = RMCP + WPCP + FGCP + RCP – DP

= 50 + 18 + 22 + 45 – 55

= 80 days

**No. of Operating Cycle in a year :**

No. of Cycles      = 360 ÷ Length of OC

= 360 ÷ 80 = 4.5 Cycles

**Working Capital Requirement :**

|  |  |  |  |
| --- | --- | --- | --- |
| Requirement per day | = | Total Cost (Cash) |  |
| 360 |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | = | Rs. 21,00,000 – Rs. 2,10,000 |  |
| 360 |  |
|  | = | Rs. 5,250 |  |

Working Capital Requirement         = OC × Requirement per day

= Rs. 5,250 × 80

= Rs. 4,20,000

***Prob 8.***

*Prepare an estimate of net working capital requirement for the WCM Ltd. adding 10% for contingencies from the information given below :*

*Estimated cost per unit of production Rs. 170 includes raw materials Rs. 80, direct labour Rs. 30 and overheads (exclusive of depreciation) Rs. 60. Selling price is Rs. 200 per unit. Level of activity per annum 1,04,000 units. Raw material in stock : average 4 weeks; work-in-progress (assume 50% completion stage): average 2 weeks; finished goods in stock : average 4 weeks; credit allowed by suppliers : average 4 weeks; credit allowed to debtors: average 8 weeks; lag in payment of wages : average 1.5 weeks, and cash at bank is expected to be Rs. 25,000. You may assume that production is carried on evenly throughout the year (52 weeks) and wages and overheads accrue similarly. All sales are on credit basis only. You may state your assumptions, if any.*

**Solution :**

**Statement of Net Working Capital Requirement**

|  |  |  |  |
| --- | --- | --- | --- |
| **A.** | **Current Assets :** |  |  |
|  | (*i*) Raw Materials in stock : | (1,04,000 × 80 × 4)/52 | Rs. 6,40,000 |
|  | (*ii*) Work-in-progress : |  |  |
|  | (*a*) Raw Materials | (1,04,000 × 80 × 2)/52 | 3,20,000 |
|  | (*b*) Direct Labour | 50% of (1,04,000 × 30 × 2)/52 | 60,000 |
|  | (*c*) Overheads | 50% of (1,04,000 60 × 2)/52 | 1,20,000 |
|  | (*iii*) Finished Goods Stock | (1,04,000 × 170 × 4)/52 | 13,60,000 |
|  | (*iv*) Debtors | (1,04,000 × 170 × 8)/52 | 27,20,000 |
|  | (*v*) Cash at Bank |  | 25,000 |
| Total Current Assets | |  | 52,45,000 |
| **B.** | **Current Liabilities :** |  |  |
| (*i*) | Creditors | (1,04,000 × 80 × 4)/52 | 6,40,000 |
| (*ii*) | Wages (Lag-in-payment) : | (1,04,000 × 30 × 1½)/52 | 90,000 |
| Total current liabilities | |  | 7,30,000 |
| **Net Working Capital (CA – CL)** | |  | 45,15,000 |
| +10% Contingencies | |  | 4,51,500 |
| Working Capital Requirement | |  | 49,66,500 |

*Assumptions :* Net working capital requirement has been estimated on cash cost basis. Hence, investment in debtor has been computed on cash cost.

***Prob 9.****The management of Royal Industries has called for a statement showing the working capital to finance a level of activity of 1,80,000 units of output for the year. The cost structure for the company’s product for the above mentioned activity level is detailed below :*

|  |  |
| --- | --- |
|  | ***Cost per unit*** |
| *Raw Material* | *Rs. 20* |
| *Direct Labour* | *5* |
| *Overheads (including depreciation of Rs. 5 per unit)* | *15* |
|  | *40* |
| *Profit* | *10* |
| *Selling price* | *50* |

*Additional information :*

*(a) Minimum desired cash balance is Rs. 20,000.*

*(b) Raw materials are held in stock, on an average, for two months.*

*(c) Work-in-progress (assume 50% completion stage in respect of all elements) will approximate to half-a-month’s production.*

*(d) Finished goods remain in warehouse, on an average, for a month.*

*(e) Suppliers of materials extend a month’s credit and debtors are provided two month’s credit; cash sales are 25% of total sales.*

*(f) There is a time-lag in payment of wages of a month; and half-a-month in the case of overheads.*

*From the above facts, you are required to prepare a statement showing working capital requirements.*

**Solution :**

**Statement of Total Cost**

|  |  |  |
| --- | --- | --- |
|  | Raw Material (1,80,000 × Rs. 20) | Rs. 36,00,000 |
|  | Direct Labour (1,80,000 × Rs. 5) | 9,00,000 |
|  | Overheads (excluding depreciation) (1,80,000 × Rs. 10) | 18,00,000 |
|  | Total cost | 63,00,000 |

**Statement of Working Capital Requirement**

|  |  |  |
| --- | --- | --- |
| **1.** | **Current Assets :** | **Amt. (Rs. )** |
|  | Cash balance | 20,000 |
|  | Raw Materials (1/6 of Rs. 36,00,000) | 6,00,000 |
|  | Work-in-progress (Total cost ÷ 24 × 50%) | 1,31,250 |
|  | Finished Goods (Total cost ÷ 12) | 5,25,000 |
|  | Debtors (75% × Rs. 63,00,000) × 1/6 | 7,87,500 |
|  | Total current assets | 20,63,750 |
| **2.** | **Current Liabilities :** |  |
|  | Creditors (Rs. 36,00,000) × 1/12 | 3,00,000 |
|  | Direct labour (Rs. 9,00,000) × 1/12 | 75,000 |
|  | Overheads (Rs. 18,00,000) × 1/24 (excluding dep.) | 75,000 |
|  | Total current liabilities | 4,50,000 |
|  | Net working capital requirement | 16,13,750 |

***Note :*** *Depreciation is a non-cash item, therefore, it has been excluded from total cost as well as working capital provided by overheads. Work-in-progress has been assumed to be 50% complete in respect of materials as well as labour and overheads expenses.*

***Prob 10.****Hi-tech Ltd. plans to sell 30,000 units next year. The expected cost of goods sold is as follows :*

|  |  |
| --- | --- |
|  | ***Rs. (Per Unit)*** |
| *Raw Material* | *100* |
| *Manufacturing expenses* | *30* |
| *Selling, administration and financial expenses* | *20* |
| *Selling price* | *200* |

*The duration at various stages of the operating cycle is expected to be as follows :*

|  |  |
| --- | --- |
| *Raw Material stage* | *2 months* |
| *Work-in-progress stage* | *1 month* |
| *Finished stage* | *1/2 month* |
| *Debtors stage* | *1 month* |

*Assuming the monthly sales level of 2,500 units, estimate the gross working capital requirement if the desired cash balance is 5% of the gross working capital requirement, and work-in-progress is 25% complete with respect to manufacturing expenses.                                                                                                        [B.Com. (H.), D.U., 2013 Adapted]*

**Solution :**

**Statement of Working Capital Requirement**

|  |  |  |
| --- | --- | --- |
| **Current Assets :** | **Amt.(Rs. )** | **Amt.(Rs. )** |
| Stock of Raw Material (2,500 × 2 × 100) |  | 5,00,000 |
| Work-in-progress : |  |  |
| Raw Materials (2,500 × 100) | 2,50,000 |  |
| Manufacturing Expense 25% of (2,500 × 30) | 18,750 | 2,68,750 |
| Finished Goods : |  |  |
| Raw Material (2,500 × 1/2 × 100) | 1,25,000 |  |
| Manufacturing Expenses (2,500 × ½ × 30) | 37,500 | 1,62,500 |
| Debtors (2,500 × 150) |  | 3,75,000 |
|  |  | 13,06,250 |
| Cash Balance (13,06,250 × 5/95) |  | 68,750 |
| Working Capital Requirement |  | 13,75,000 |

**Note:** Selling, administration and financial expenses have not been included in valuation of closing stock. However, Debtors have been valued at full cost. Alternatively, Debtors can also be valued at Rs. 30.

***Prob 11.****Calculate the amount of working capital requirement for SRCC Ltd. from the following information:*

|  |  |
| --- | --- |
|  | ***Rs. (Per Unit)*** |
| *Raw Material* | *160* |
| *Direct Labour* | *60* |
| *Overheads* | *120* |
| *Total cost* | *340* |
| *Profit* | *60* |
| *Selling price* | *400* |

*Raw materials are held in stock on an average for one month. Materials are in process on an average for half-a-month. Finished goods are in stock on an average for one month.*

*Credit allowed by suppliers is one month and credit allowed to debtors is two months. Time lag in payment of wages is 1½ weeks. Time lag in payment of overhead expenses is one month. One fourth of the sales are made on cash basis.*

*Cash in hand and at the bank is expected to be Rs. 50,000 : and expected level of production amounts to 1,04,000 units for a year of 52 weeks.*

*You may assume that production is carried on evenly throughout the year and a time period of four weeks is equivalent to a month.*

**Solution :**

**Statement of Working Capital Requirement**

|  |  |  |  |
| --- | --- | --- | --- |
| **1.** | **Current Assets :** | **Amount** | **Amount** |
|  | Cash Balance |  | Rs. 50,000 |
|  | Stock of Raw Material (2,000 × 160 × 4) |  | 12,80,000 |
|  | Work-in-progress : |  |  |
|  | Raw Materials (2,000 × 160 × 2) | Rs. 6,40,000 |  |
|  | Labour and Overheads (2,000 × 180 × 2) × 50% | 3,60,000 | 10,00,000 |
|  | Finished Goods (2,000 × 340 × 4) |  | 27,20,000 |
|  | Debtors (2,000 × 75% × 340 × 8) |  | 40,80,000 |
|  | Total Current Assets |  | 91,30,000 |
| **2.** | **Current Liabilities :** |  |  |
|  | Creditors (2,000 × Rs. 160 × 4) |  | 12,80,000 |
|  | Creditors for Wages (2,000 × Rs. 60 × 1½) |  | 1,80,000 |
|  | Creditors for Overheads (2,000 × Rs. 120 × 4) |  | 9,60,000 |
|  | Total Current Liabilities |  | 24,20,000 |
|  | Net Working Capital (CA – CL) |  | 67,10,000 |

***Prob 12.****The data of ABC Ltd. is as under:*

|  |  |  |
| --- | --- | --- |
| *Production of the year* | *:* | *69,000 units* |
| *Finished Goods inventory* | *:* | *3 months* |
| *Raw Materials inventory* | *:* | *2 months consumption* |
| *Production process* | *:* | *1 month* |
| *Credit allowed by Creditors* | *:* | *2 months* |
| *Credit given to Debtors* | *:* | *3 months* |
| *Selling Price per unit* | *:* | *Rs. 50 each* |
| *Raw Material* | *:* | *50% of selling price* |
| *Direct Wages* | *:* | *10% of selling price* |
| *Overheads* | *:* | *20% of selling price* |

*There is a regular production on sales cycle, wages and overheads accrue evenly. Wages are paid in the next month of accrual. Material is introduced in the beginning of production cycle. Work-in-process involves use of full unit of raw materials in the beginning of manufacturing process and other conversion costs equivalent to 50%.*

*You are required to find out working capital requirement of ABC Ltd.*

*[B.Com. (H.), D.U., 2010]*

**Solution :**

Monthly Production (69000 ÷ 12) = 5750

**Statement of Working Capital Requirement**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **I. Current Assets:** | | |  |  |
|  | | RM (5,750 × 2 × 25) | Rs. 2,87,500 |  |
| WIP | – | RM (5,750 × 1 × 25) | 1,43,750 |  |
|  | – | W (5,750 × 1 × 5) 50% | 14,375 |  |
|  | – | O/H (5,750 × 1 × 10) 50% | 28,750 |  |
|  |  | FG (5,750 × 3 × 40) | 6,90,000 |  |
|  |  | Debtors (5,750 × 3 × 40) | 6,90,000 | Rs. 18,54,375 |
| **II. Current Liabilities:** | | |  |  |
|  | | Creditors (5,750 × 2 × 25) | 2,87,500 |  |
|  | | Wages (5,750 × 1 × 5) | 28,750 | 3,16,250 |
| Working Capital Requirement (CA – CL) | | |  | 15,38,125 |

***Prob 13.P****repare a working capital forecast from the following information :*

*Production during the previous year was 10,00,000 units. The same level of activity is intended to be maintained during the current year. The expected ratios of cost to selling price are :*

|  |  |
| --- | --- |
| *Raw materials* | *40%* |
| *Direct Wages* | *20%* |
| *Overheads* | *20%* |

*The raw materials ordinarily remain in stores for 3 months before production. Every unit of production remains in the process for 2 months and is assumed to be consisting of 100% raw material, wages and overheads. Finished goods remain in the warehouse for 3 months. Credit allowed by creditors is 4 months from the date of the delivery of raw material and credit given to debtors is 3 months from the date of dispatch.*

*The estimated balance of cash to be held Rs. 2,00,000*

*Lag in payment of wages ½ month*

*Lag in payment of expenses ½ month*

*Selling price is Rs. 8 per unit. You are required to make a provision of 10% for contingency (except cash). Relevant assumptions may be made.*

**Solution :**

Total Sales = 10,00,000 × 8 = Rs. 80,00,000

**Statement of Working Capital Requirement**

|  |  |  |  |
| --- | --- | --- | --- |
| **A.** | **Current Assets :** |  |  |
|  | Debtors (80,00,000 × 80% × 3/12) | Rs. 16,00,000 |  |
|  | Finished Goods (80,00,000 × 80% × 3/12) | 16,00,000 |  |
|  | Work-in-progress (80,00,000 × 80% × 2/12) | 10,66,667 |  |
|  | Raw Materials (80,00,000 × 40% × 3/12) | 8,00,000 |  |
|  | Total current assets | 50,66,667 | Rs. 50,66,667 |
| **B.** | **Current Liabilities :** |  |  |
|  | Creditors (80,00,000 × 40% × 4/12) | 10,66,667 |  |
|  | Wages (80,00,000 × 20% × 1/24) | 66,667 |  |
|  | Overheads (80,00,000 × 20% × 1/24) | 66,666 | 12,00,000 |
|  | Excess of CA over CL |  | 38,66,667 |
|  | + 10% contingency |  | 3,86,667 |
|  |  |  | 42,53,334 |
|  | Cash |  | 2,00,000 |
|  | Working Capital Requirement |  | 44,53,334 |