FINANCIAL MANAGEMENT
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**WORKING CAPITAL-I**

**SEMESTER VI**

**FINANCIAL MANAGEMENT**

**CONCEPT OF WORKING CAPITAL**:- Funds are required for two purposes:-

1. Capacity building:- acquiring tangible and intangible assets[Fixed Capital i.e. fund invested in fixed or long term assests]
2. To run the business for regular or continuous business purpose [ working capital].

**WORKING CAPITAL: ∑ Current Assets(CA)- ∑ Current Liabilities(CL)**

**Example:-**

*Q1. Suppose on a particular day, the balances of inventory(I), debtors(D), cash ©and creditors © of a firm are: 40,000; 32,000; 11,000; 18000 respectively.*

Working capital=(I+D+C)-C [40,000+32,000+11,000-18,000=65,000]

- 65,000 is not the cost of the firm as the debtors includes profit. The firm is required to invest the cost only.

Working capital represents the amount of fund which remains locked or which is required for the day to day operation of the business. It covers the amount of fund required for regular business operations.

From balance sheet concept working capital represents the difference between current assets and current liabilities.

**Different types and concepts of working capital**

**Gross and net working capital:-**

1. Gross working capital: ∑ CA[ sum total of all current assets]
2. Net working capital: ∑CA-∑CL[ difference between CA & CL]

**Q2. Example:-**

*Consider the following assets and liabilities—Land building Rs12,00,000, Plant and Equipment Rs7,00,000; Investment Rs 60,000; Stock of raw material Rs 1,30,000; Stock of semi finished goods (WIP) 90,000; Stock of finished goods Rs 1,50,000; Receivables (Debtors and bills receivables together)Rs 1,40,000; 10 % debentures Rs 2,00,000; Prepaid Expenses Rs 20,000; Payables (Creditors and bills payables) Rs 80,000; Outstanding wages Rs 25,000 and Cash and bank Rs 45,000*

**Solution:** Now let us calculate gross and net working capital

| | | |
|---|---|---|
| Current Assets:<br>Raw materials | <br>1,30,000 | |

| | | |
|---|---|---|
| WIP | 90,000 | |
| Finished Goods | 1,50,000 | |
| Receivables | 1,40,000 | |
| Prepaid expenses | 20,000 | |
| Cash and bank | 45,000 | |
| GROSS WORKING CAPITAL | | 5,75,000 |
| Less: | | |
| Current Liabilities | | |
| Payables | | |
| Outstanding Wages | 80,000 | |
| | 25,000 | |
| | | 1,05,000 |
| Net Working Capital | | |
| | | **4,70,000** |

**Positive and Negative Working Capital**

Net Working Capital can be of two types

1. Positive :- ∑CA≥CL [ The portion of fixed capital is blocked in the working capital]
2. Negative: ∑CL≥ ∑ CA [The portion of capital implies that short term or spontaneous credit received by the firm is being utilized in fixed capital].

**Q3. Example:**

Total of current assets Rs 5,40,000 and Total of current liabilities Rs 2,30,000

Here working capital = Rs 5,40,000- Rs 2,30,000= Rs3,10,000, the firm requires to arrange this amount to run the business on a regular basis. This is positive working capital.

Total CA = Rs 2,40,000 and Total CL = Rs 3,30,000

Here total working capital = 2,40,000- 3,30,000= (-1,10,000); the firm is required to invest the amount in fixed assets rather than to run the business in a regular basis.

**Permanent and Temporary working capital**

Permanent working capital: Fixed working capital cannot be withdrawn before the business is closed.

Seasonal working capital:- it arises due to two factors seasonal fluctuation and special requirement.

Example:- Suppose the working capital of a company are divided into four quarters

Q1= Rs 2,30,000 ; Q2 = Rs4,25,000 Q3 = Rs 2,10,000 Q4 = Rs3,80,000

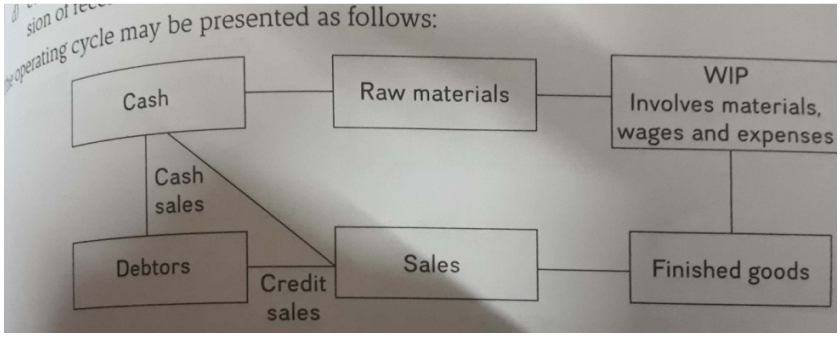
*Minimum WC is 2,10,000 and maximum is 4,25,000; so 2,10,00 is permanent WC and Variable working capital are Q1=20,000; Q2= Rs 2,15,000 and Q4= 1,70,000*

The company has to arrange for the variable WC to meet the demand obligations and the fixed capital is 2,10,000.

**Operating Cycle and Working Capital**

WC is required due to the existence of operating cycle. It is the time duration required to complete certain sequential events in connection with the normal business operations.

a. Conversion of cash into raw material (raw material holding)
b. Conversion of raw material into work in progress (Processing time)
c. Conversion of WIP in finished goods ( Warehousing of finished goods)
d. Conversion of finished goods into debtors and receivables by way of sales and finally converting receivables into cash (payment lag by customer or debtors)




1. **RMCP (Raw material Conversion period): Average stock of raw materials / Average per day consumption= RMCP (in days)**
2. **WIPCP( Work in progress conversion period): Average stock of WIP / Average per day Cost of production= WIPCP (in days)**
3. **FGCP (Finished goods conversion period): Average stock of finished goods/ Average per day cost of goods sold= FGCP (in days)**
4. **DCP (Debtors conversion Period): Average amount of receivables/ Average per day credit sales= DCP in days**
5. **CDP (Creditors deferral Period): Average amount of payables/ Average per day credit purchase= CDP in days**
6. **ICP(Inventory conversion period): RMCP+WIPCP+FGCP**
   **OR Average stock/purchase per day**
7. **GWC(gross working capital) : ICP+DCP**
8. **NWCC(Net working capital cycle): GWCC –CDP**

**Q4. Example of operating cycle**

*Following data are available in relation to a trading concern:*

*Stock of goods opening Rs 40,000 and Closing Rs 50,000*
*Debtors opening Rs 65,000 and closing Rs 85,000*
*Creditors Opening Rs 50,000 and Closing Rs 60,000*
*Sales during the year Rs 60,000 (GP rate is 20%)*

**Solution:**

| Particulars | | Annual Rs | Per day/365 | Notations |
|---|---|---|---|---|
| Sales | | 6,00,000 | 1644 | 1 |
| Cost of goods sold(80%) | 4,80,000 | | | |
| Add: Closing Stock | 50,000 | | | |
| Less: Opening stock | 40,000 | | | 2 |
| Purchase | | 4,90,000 | 1342 | 3 |
| Average debtors | 65,000+85,000/2 | 75,000 | | 4 |
| Average stock | 40,000+50,000/2 | 45,000 | | 5 |
| Average creditors | 50,000+60,000/2 | 55,000 | | 6 |
| Working capital cycle<br>ICP | Average stock/purchase per day | 45,000/1342 | 34 days | |
| Debtors conversion Period | Average debtors/Sales per day | 75,000/1644 | 46days | |
| Gross working capital | | | 80days | |
| Less: CDP | Average creditors/purchase per day | | 41days | |
| Net working capital | | | 39 days | |

**Estimation or forecasting working capital requirement of firm**

Estimation of working capital requires estimating each and every element of working capital. It requires ascertainment of current assets and current liabilities. CA comprises inventory in the form of raw materials, semi finished goods, and finished goods, debtors. CL comprises creditors and other payments in the form of wages, overheads etc.

The following matters are required to be considered while determining the extent of WC

1. Level of activity
2. Length of operating cycle
3. Amount of liquid cash to be retained for contingencies
4. Accrual of costs

**Q5. Example:**

1. *Production capacity of XLTD is 18,000 U p.a.*
2. *Production estimated during the year is 12,000 u that is planning to operate at 75% of its capacity*
3. *Projected per unit COP is as follows:*
   *Materials Rs 5, Labour Rs 2, Overhead Rs 3*
4. *Projected selling price per unit is Rs 12 (profit of Rs 2)*

5. *An analysis of operating cycle:*
   a. *Raw material storage period: 3 months*
   b. *Processing time: 1 month*
   c. *Warehousing period : 2 month*
   d. *Credit period allowed to debtors: 3 months*
   e. *Credit period allowed by creditors: 1.5 months*
   f. *Delay in payment of wages and overhead: 0.5 months*

Solutions:

- Per *unit material cost is Rs 5 so pu cost of production (5+2+3)=10*
- *Production per month is 12,000/12= 1,000 U*

An analytical approach showing both elements of costs and components of working capital

| Costs per month (Units per month * Cost per unit) | Material | Labor | Overhead |
|---|---|---|---|
| Cost per unit | 5 | 2 | 3 |
| Units per month | 1,000 | 1,000 | 1,000 |
| Cost block per month | 5,000 | 2,000 | 3,000 |

Now under each element of costs amount blocked may be determined as (Cost block per month* block period in month)

**Computation of working capital requirement**

| Particulars | Block period (M) | Material | Labour | Overhead | Total |
|---|---|---|---|---|---|
| Current Assets: Raw materials | 3 | 15,000 | | | 15,000 |
| WIP | 1 | 5,000 | 2,000 | 3,000 | 10,000 |
| Finished goods | 2 | 10,000 | 4,000 | 6,000 | 20,000 |
| Debtors | 3 | 15,000 | 6,000 | 9,000 | 30,000 |
| **TOTAL** | | **45,000** | **12,000** | **18,000** | **75,000** |
| Current liabilities Creditors for goods | 1.5 | 7500 | | | 7500 |
| Creditors for wages & overheads | 0.5 | | 1000 | 1500 | 2500 |
| **TOTAL** | | **7500** | **1000** | **1500** | **2500** |
| Working Capital | | 37500 | 11,000 | 16,500 | **65,000** |

**Q6. CU B.COM (H)2018**

The following information is provided by XLtd. For the year ended 31.03.2020

| | |
|---|---|
| RMSP/ ICP | 45 days |
| WIPCP | 18 days |
| FGSP | 22 days |
| DCP | 30 days |
| CPP | 55 days |
| Annual cash cost of operations | Rs 18 Lakhs |
| (1 year 360 days) | |

Calculate:

1. Operating cycle period
2. Number of operating cycle in a year
3. Using the above information calculate the approximate amount of working capital required.

**Solutions:**

a) Operating cycle period: inventory conversion period(ICP)+ DCP-CDP
(45+18+22)+30-55= 60 days
b) Number of operating cycle in a year=
Days in a year/ operating cycle in days= 360/60= 6 times
c) Approximate amount of working capital requirement= annual cash operating costs* operating cycle period/360
18,00,000* 60/360= Rs 3,00,000

**CU BCOM (H) 2010**

Q7. *Estimate the working capital requirement for the coming year from the following information of a manufacturing company. Expected annual sales is 1,30,000 units of Rs 10PU. The anticipated ratio of costs to selling price are as follows: Raw materials 50% and direct wages 15%, Budgeted overhead is Rs 52,000 pa including Rs 10,000 for depreciations. Planned stock will include raw materials for Rs 50,000 and 7500 units of finished goods. Credit allowed to debtors is 4 weeks. Credit expected to be received from suppliers is 3 weeks. Overhead and wages payment will be made 1 week after their incurrence. Material will stay in the process for 2 weeks. Cash in hand to be maintained is 10% of total working capital. Assume that production is carried on evenly throughout the year. Raw materials are introduced at the beginning of the process and wages and overhead accrue evenly during processing*

Solutions

Production and sales per week : 1,30,000/52= 2500

| Cost block per week for each component | | Materials | WIP | F Goods |
|---|---|---|---|---|
| Materials | (2500* Rs 5)(R/M 50%) | 12,500 | 12,500 | 12,500 |

| | | | | |
|---|---|---|---|---|
| Labour (50% for WIP) | 2500* Rs1.5(15%) | | 1875 | 3750 |
| Cash Overhead | 52,000-10,000/52 | | 404 | 808 |
| | | 12,500 | 14,779 | 17058 |

Statement showing working capital requirement

| Particulars | Block period (weeks) | Amount blocked per week | Amount |
|---|---|---|---|
| Current assets:<br>Raw materials [50,000 /12,500] | 4 | 12500 | 50,000 |
| WIP | 2 | 14,779 | 29,558 |
| Finished goods 7500/2500 | 3 | 17058 | 51174 |
| Debtors | 4 | 17058 | 68232 |
| Total | | | 198964 |
| Current Liabilities<br>Creditors | 3 | 12500 | 37500 |
| Outstanding wages and overhead | 1 | 4558 [3750+808] | 4558 |
| Total current liabilities | | | 42058 |
| Working capital | | | 156906 |
| Cash balance (10%) | | | 17434 |
| **Cash cost of working capital** | | | **174340** |

Workings

90/100 X =156906

X=174340

*Q8. With the following information prepare a statement showing the working capital requirement for a level of activity of 10,400 units per annum[* ***CU B.Com 2012 (H)***

a) *Selling price at the rate of Rs 5 per units*
b) *The expected ratio of cost to selling prices are as follows:*
   i. *Raw material 40%*
   ii. *Direct wages 10%*
   iii. *Overhead 30%*
   iv. *Profit 20%*
c) *Raw materials are expected to remain in store for an average period of 2 months before being used for production, and materials are in process on an average period of 6 weeks.*
d) *Finished goods will stay in store approximately for 6 weeks before dispatch to customers*
e) *Credit allowed to debtors for a period of 2 months*
f) *Credit allowed by creditors for a period of 2 months*
g) *Lag in payment of wages and overhead are for 2 weeks*
h) *Cash in hand is Rs 10,000. Production is carried out evenly during the year*

**Solutions**

**Production 10,400/52=200**

| Particulars | MAT | WIP | FG |
|---|---|---|---|
| Materials [200*40%*5] | 400 | 400 | 400 |
| Labour [200*5*10%][50% for WIP] | | 50 | 100 |
| Overhead[200*5*30%] [50%for WIP] | | 150 | 300 |
| Total | 400 | 600 | 800 |

Statement showing working capital requirement

| | Block period(W) | Amount blocked per week | Amount |
|---|---|---|---|
| Current assets:<br>Raw materials | 8 | 400 | 3200 |
| WIP | 6 | 600 | 3600 |
| FG | 6 | 800 | 4800 |
| Debtors | 8 | 800 | 6400 |
| Total | | | 18000 |
| Current Liabilities<br>creditors | 8 | 400 | 3200 |
| Outstanding wages | 2 | 400 | 800 |
| Total | | | 4000 |
| Working capital | | | 14,000 |
| Add: Expected Cash | | | 10,000 |
| **Cash cost of working capital** | | | **24,000** |