

# WORKING CAPITAL ANALYSIS

Unit-II

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# Meaning:

Capital required for a business can be classified under two categories:

- i) Fixed Capital-Long term funds
- ii) Working Capital-Short Term Funds

**Definition: Shubin:** "Working capital is the amount of funds necessary to cover the cost of operating the enterprise."

**Genestenberg:** "Circulating capital means current assets of a company that are changed in the ordinary course of business from one form to another, as for example, from cash to inventories, inventories to receivables, receivables into cash."

# CONCEPTS OF WORKING CAPITAL:

There are two concepts of working capital:

- i) Gross working Capital
- ii) Net working Capital

**Gross working Capital:** It is the capital that is invested in the current assets of the company. Current assets are those assets which in the ordinary course of business can be converted into cash within a short period of normally one accounting year.

**Examples of Current Assets:**

# **EXAMPLES OF CURRENT ASSETS:**

- 1. Cash in hand and bank balances**
- 2. Bills receivables**
- 3. Sundry Debtors (less provision for bad debts)**
- 4. Short term loans and advances**
- 5. Inventories of stocks as:**
  - a) Raw materials**
  - b) work in Progress**
  - c) Stores and spares**
  - d) Finished goods**
- 6. Temporary investments of surplus funds**
- 7. Prepaid Expenses**
- 8. Accrued Incomes**

# **NET WORKING CAPITAL:**

**In a narrow sense the term net working capital refers to the excess of current assets over current liabilities:**

**Net working Capital= Current assets - Current Liabilities**

**Examples of Current liabilities:**

- 1. Bills Payable**
- 2. Sundry creditors or Accounts payable**
- 3. Accrued or outstanding expenses**
- 4. Short term loans, advances and deposits**
- 5. Dividends payable**
- 6. Bank overdraft**
- 7. Provision for taxation if it does not amount to appropriation of profits.**

# **NEED OR OBJECTS OF WORKING CAPITAL:**

- 1. For the purchase of raw materials, components and spares.**
- 2. To pay wages and salaries.**
- 3. To incur day to day expenses and overhead costs such as fuel power and office expenses etc.**
- 4. To meet the selling costs such as packing, advertising etc.**
- 5. To provide credit facilities to customers.**
- 6. To maintain the inventories of raw material, work in progress, stores and spares, and finished stock.**

## **CLASSIFICATION OR KINDS OF WORKING CAPITAL:**

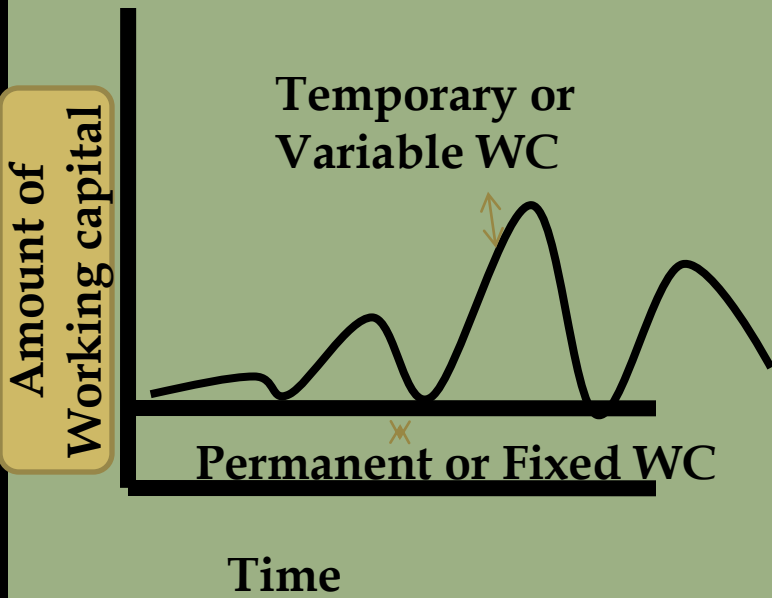
**Working capital may be classified in two ways:**

- 1. On the basis of concept-??**
- 2. On the basis of time**

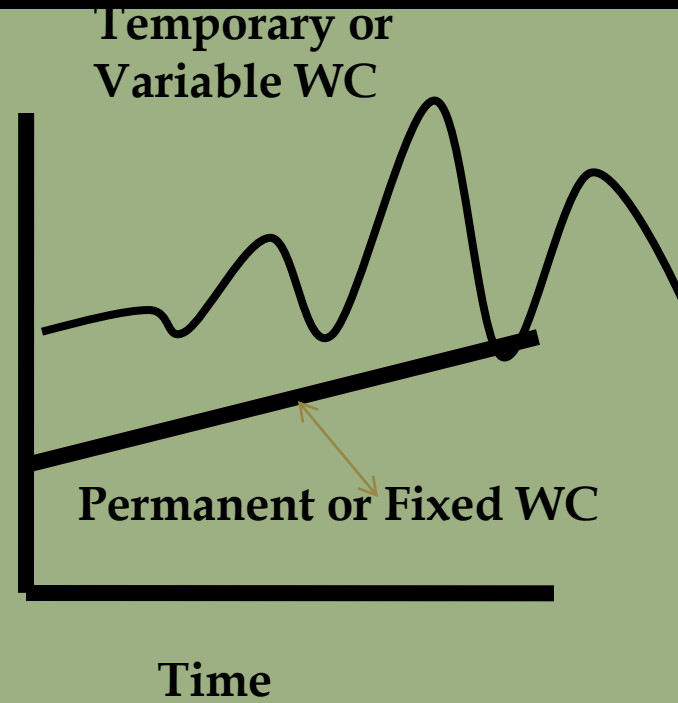
**On the basis of time, working capital may be classified as:**

- a) Permanent or fixed working capital (Regular (Minimum level of current assets, Circulation of current assets from cash to inventories) and Reserve-For future contingencies)**
- b) Temporary or variable working capital: it is the amount of working capital which is required to meet the seasonal demands and some special exigencies.**

# CLASSIFICATION OR KINDS OF WORKING CAPITAL:



Amount of Working capital



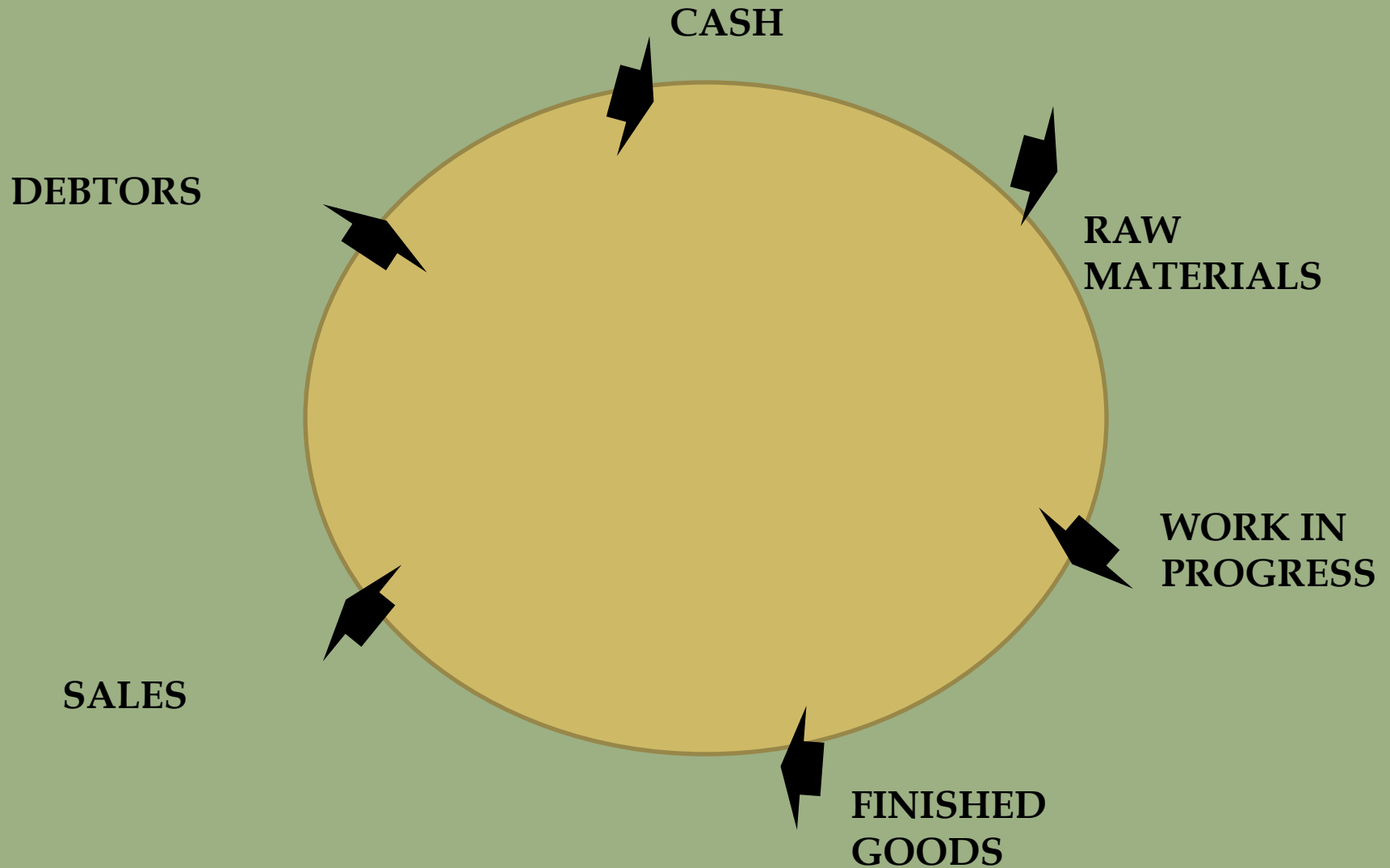


# **FACTORS DETERMINING WORKING CAPITAL REQUIREMENT**

**The working capital requirement of a concern depend upon a large number of factors i.e.:**

- 1.Nature or character of business(Utility,trading, manufacturing)**
- 2.Size of business/Scale of Operations(Small, medium large)**
- 3.Production Policy (high in Peak season and less in slack season-Ex-winter garment)**
- 4.Manufacturing process/Length of production cycle**
- 5.Seasonal variations**
- 6.Working capital cycle**

# WORKING CAPITAL CYCLE



## **FACTORS DETERMINING WORKING CAPITAL REQUIREMENT(Continued..)**

- 7.Credit policy(Debtors and creditors)**
- 8.Business cycles (Boom & Depressions)**
- 9.Rate of growth of business**
- 10.Earning capacity and dividend policy**
- 11.Price level changes**
- 12.Other factors(operating efficiency, management ability, irregularities of supply, import policy, asset structure, importance of labour, banking facilities etc.)**

## **SOURCES OF WORKING CAPITAL**

**As the working capital requirements of a concern can be classified as:**

- a) Permanent or fixed working capital requirements**
  - b) Temporary or variable working capital requirements.**
- The fixed proportion of working capital should be generally financed from the fixed capital sources while the temporary or variable working capital requirements of a concern may be met from the short term sources of capital.**

# SOURCES OF WORKING CAPITAL

<b>Long term/Permanent or Fixed:</b>	<b>Short term/Temporary or variable</b>
1.Shares	1.Commercial Banks
2.Debentures	2.Indigenous Bankers
3.Public Deposits	3.Trade Credits
4. Ploughing back of Profits	4.Instalment Credit
5.Loans from Financial Institutions	5.Advances
6.Retained Earnings	6.Account Receivable (Credit)
7.Funds raised through GDR/NRI	

# PRINCIPLES OF WORKING CAPITAL MANAGEMENT

1. Principle of cost minimisation (Minimisation of cost of funding(dividend and interest costs) and holding WC)
2. Principle of risk variation. (lower the amount of Net WC, higher the risk of insolvency- Conservative Policy(Sufficient WC), moderate policy and Aggressive policy(Lowest possible WC)
3. Principle of Profit maximisation
4. Principle of credit-worthiness
5. Tradeoff between liquidity and profitability

# WORKING CAPITAL MANAGEMENT

**As Working capital is the excess of CA over CL, therefore management of working capital refers to the management and control of each components of current assets and current liabilities. Therefore, management of working capital entails three important dimensions:**

- 1) Management of current assets**
- 2) Management of current liabilities**
- 3) Formulation of policies with regard to profitability, risk and liquidity i.e. tradeoff between profitability and liquidity**

# WORKING CAPITAL MANAGEMENT



# FORECAST/ESTIMATE OF WORKING CAPITAL REQUIREMENTS

- ▣ Working capital is the life-blood and controlling nerve centre of a business.
- ▣ No business can sustain without adequate amount of working capital. To avoid the shortage of working capital at once, an estimate of working capital requirements should be made in advance so that arrangements can be made to procure adequate working capital.
- ▣ But estimation of working capital requirements is not an easy task and a large number of factors have to be considered before starting this exercise.
- ▣ For a manufacturing organisation, the following factors have to be taken into consideration while making an estimate of working capital requirements.

## **FACTORS(FOR MANUFACTURING CONCERN)**

- 1. The length of time, raw materials are to remain in stores before they are issued for production.**
- 2. The length of the production cycle or work in progress (Time required for conversion of raw material into finished product)**
- 3. The length of sales cycle during which finished goods are to be kept waiting for sales**
- 4. The average period of credit allowed to customers**
- 5. The amount of cash required to pay day to day expenses of the business.**
- 6. The average amount of cash required to make advance payments, if any.**
- 7. The average credit period expected to be allowed by suppliers.**
- 8. Time-lag in the payment of wages and other expenses.**

## FACTORS(FOR MANUFACTURING CONCERN)

- ▣ The sum total of point 1 to 6 is the current assets.
- ▣ The sum total of point 7 & 8 is the current liabilities.
- ▣ The requirements of working capital or net working capital can be determined by the formula:

$$WC = CA - CL$$

- ▣ It is to be noted that incase of purely trading concerns, points one and two would not arise but all other factors from 3 to 8 are to be taken into consideration.
- ▣ In order to provide for contingencies, some extra amount generally calculated as a fixed percentage of the working capital may be added as a margin of safety.

**Q1. Prepare an estimate of working capital requirements from the following information of a trading concern.**

- a) **Projected annual sales** **1,00,000 units**
- b) **Selling Price** **Rs.8 per unit**
- c) **% of net profit on sales** **25%**
- d) **Average credit period allowed to customers: 8 weeks**
- e) **Average credit period allowed by suppliers: 4 weeks**
- f) **Average stock holding in terms of sales requirement: 12 weeks**
- g) **Allow 10% for contingencies.**

## Q1. Solution

### STATEMENT OF WORKING CAPITAL REQUIREMENTS

<b>Current Assets:</b>	<b>Rs.</b>
Debtors (8 weeks): $\frac{6,00,000 \times 8}{52} =$	92,308
Stocks (12 weeks): $\frac{6,00,000 \times 12}{52} =$	<u>1,38,462</u>
	2,30,770
<b>Less Current Liabilities:</b>	
Creditors (4 weeks): $\frac{6,00,000 \times 4}{52} =$	<u>46,154</u>
<b>Net working Capital</b>	<b>1,84,616</b>
<b>Add 10% for contingencies</b>	<u>18,462</u>
<b>Working Capital Required</b>	<u>2,03,078</u>

**Working Notes:**

**1. Sales =  $1,00,000 \times 8 = \text{Rs. } 8,00,000$**

**Profit = 25% of Rs. 8,00,000 = Rs. 2,00,000**

**Cost of Sales =  $8,00,000 - 2,00,000 = \text{Rs. } 6,00,000$**

**2. As it is a trading concern cost of sales are assumed to be the purchases.**

**3. Profits have been ignored as funds provided by profits may or may not be used as working capital.**

## Q2. Find the working capital requirements

<b>(i) Amount blocked up for stocks:</b>	<b>Rs.</b>	
Stocks of finished product		5,000
Stocks of stores, materials etc.		8,000
<b>(ii) Average credit given;</b>		
Inland sales-6weeks credit		3,12,000
Export sales-1½ weeks credit		78,000
<b>(iii) Lag in Payments:</b>		
Wages 1½ weeks		2,60,000
Stocks materials etc. -1½ months		48,000
Rent Royalties etc .-6months		10,000
Clerical staff ½ month		62,400
manager ½ month		4,800
Miscellaneous Expenses 1 ½ Months		48,000

## Q2. Find the working capital requirements

- |  |        |
|--|--------|
| (iv) Payment in advance:                                   | Rs.    |
| Sundry expenses (paid quaterly in advance)                 | 8,000  |
| (v) Undrawn profit on the average<br>throughout the year   | 11,000 |
| (vi) Add 10% to your computed figures as<br>contingencies. |        |



## Q2. Solution:

Statement showing the average working capital requirement

<b>Current Assets:</b>	<b>Rs.</b>
(i) Stock of finished products	5,000
(ii) Stock of stores materials etc.	8,000
(iii) Sundry Debtors:	
(a) inland (6weeks) $3,12,000 \times 6/52 = 36,000$	
(b) Export $1\frac{1}{2}$ weeks $78,000 \times 3/52 \times 1/2 = \underline{2,250}$	
	38,250
<u>(iv) Payments in advance <math>8,000 \times \frac{1}{4}</math> (Quarterly)</u>	<u>2,000</u>
<b>Total of current Assets</b>	<b>53,250</b>

## Q2. Solution:Continued....

Statement showing the average working capital requirement

<b>Less Current Liabilities:</b>	<b>Rs.</b>
<b>Lag in Payment of:</b>	
(i) wages( $1\frac{1}{2}$ weeks) $2,60,000 \times \frac{3}{52} \times \frac{1}{2} = 7,500$	
(ii) Stocks( $1\frac{1}{2}$ months) $48,000 / 12 \times \frac{3}{2} = 6,000$	
(iii) Rent etc(6months) $10,000 \times \frac{6}{12} = 5,000$	
(iv) Clerical staff( $\frac{1}{2}$ months) $62,400 / 12 \times \frac{1}{2} = 2,600$	
(v) Manager( $\frac{1}{2}$ months) $4,800 / 12 \times \frac{1}{2} = 200$	
<u>(vi) Misc. Exp.<math>1\frac{1}{2}</math> months)<math>48,000 / 12 \times \frac{3}{2} = 6,000</math></u>	
<b><u>Total of current liabilities</u></b>	<b><u>27,300</u></b>
<b><u>Net Working Capital (CA-CL)</u></b>	<b><u>25,950</u></b>
<b><u>Add 10% margin for contingencies 10% of 25,950</u></b>	<b><u>2,595</u></b>
<b>Average working capital requirement</b>	<b>28,545</b>

**Q3. Mr.Z wishes to commence a new trading business and gives the following information, Calculate (i) his estimated profit for the year (b) his average working capital requirements**

- (1) The total estimated sales in a year will be Rs.12.00,000**
- (2) His estimated fixed expenses are of Rs.2,000 per month and variable expenses equal to 5% of his turnover.**
- (3) He expects to fix a sales price for each product which will be 25% in excess of his cost of purchases.**
- (4) He expects to turnover his stock four times in a year.**
- (5) The sales and purchases will be evenly spread through the year. All sales will be for cash but he expects one month's credit for purchases.**

### Q3. Solution: (a) ESTIMATED PROFIT OF MR.Z FOR THE YEAR

	Rs.
Sales	12,00,000
Less Gross profit( $12,00,000 \times 25/125$ )	<u>2,40,000</u>
Cost of Goods sold	<u>9,60,000</u>
Gross profit	2,40,000
Less Expenses:	
Fixed ( $2,000 \times 12$ )	=24,000
<u>Variable (<math>12,00,000 \times 5/100</math>)</u>	<u>=60,000</u>
<u>Total expenditure</u>	<u>84,000</u>
<u>Net Profit</u>	<u>1,56,000</u>

### Q3. Solution: (b) STATEMENT OF AVERAGE WORKING CAPITAL REQUIREMENTS

Current Assets:	Rs.
(a) Stock	
Turnover of stock is 4 times	
Average stock = cost of goods sold / Stock turnover	
= 9,60,000 / 4 =	2,40,000
(b) Cash:	
To meet fixed expenses	2,000
To meet variable expenses	
$12,00,000 \times 5/100 \times 1/12 =$	<u>5,000</u>
(Assumed to be for one month)	7,000
<u>Debtors (As all sales are for cash only)</u>	<u>NIL</u>
<u>Total of current assets</u>	<u>2,47,000</u>
Less Current Liabilities:	
<u>Creditors (1 month) <math>9,60,000 \times 1/12 =</math></u>	<u>80,000</u>
<u>Working Capital Required</u>	<u>1,67,000</u>

**Q4. Prepare a statement of working capital requirement of a concern for production of 3,00,000 units of output in a year. The cost structure and other informations are given below.**

	<b>Cost per unit in Rs.</b>
<b>Raw materials</b>	<b>20</b>
<b>Direct Labour</b>	<b>05</b>
<b>Overheads</b>	<b>15</b>
<b>Total Cost</b>	<b>40</b>
<b>Profit</b>	<b>10</b>
<b>Selling Price</b>	<b>50</b>

**(a) Raw materials are held in stock for two months**

**(b) Work in progress (100% complete in regard to materials and 50% for labour and overhead will be approximately half a months production.**

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

## Q4. Continued.....

- (d) Suppliers of materials extend a month's credit.
- (e) Two months credit is allowed to debtors, calculation of debtors may be made at selling price.
- (f) A minimum cash balance of Rs.25,000 is expected to be maintained.
- (g) The production pattern is assumed to be even during the year.

## Solution:Q.4: Statement showing the working capital requirements

	RS.
<b>Current Assets:</b>	
Stock of raw materials(2months) $3,00,000 \times 20 \times 2/12$	10,00,000
Stock of work in process (1/2 months)	
Raw materials $3,00,000 \times 20 \times 1/2 \times 1/12 =$	2,50,000
Direct Labour (50%) $3,00,000 \times 5 \times 1/2 \times 1/12 \times 50/100 =$	31,250
Overheads (50%) $3,00,000 \times 15 \times 1/2 \times 1/12 \times 50/100 =$	<u>93,750</u>
	3,75,000
Stock of Finished Goods(1months at cost)	
Raw materials $3,00,000 \times 20 \times 1/12 =$	5,00,000
Direct Labour $3,00,000 \times 5 \times 1/12 =$	1,25,000
Overheads $3,00,000 \times 15 \times 1/12 =$	<u>3,75,000</u>
	10,00,000
Debtors(2Months at selling price) $3,00,000 \times 50 \times 2/12$	25,00,000
<u>Cash balance required</u>	<u>25,000</u>
<b>Total of Current Assets</b>	<b><u>49,00,000</u></b>
<b>Less Current Liabilities:</b>	
Creditors for raw materials(1Month) $3,00,000 \times 20 \times 1/12$	<u>5,00,000</u>
<b>WORKING CAPITAL REQUIRED (CA-CL)</b>	<b><u>44,00,000</u></b>