

Financial Management

Chapter : Working Capital Management



Short term Investment decision

- * The term "working capital" also called gross working capital refers to the firm's aggregate of current assets. current assets are those assets which can be convertible into cash within an accounting period, generally a year. Therefore, they are cash or mere cash resources of a business concern.

2 Types of working capital

Gross working capital
↓

Refers to the total of current Assets.

Net working capital
↓

Refers to the excess of the current Assets over current liabilities.

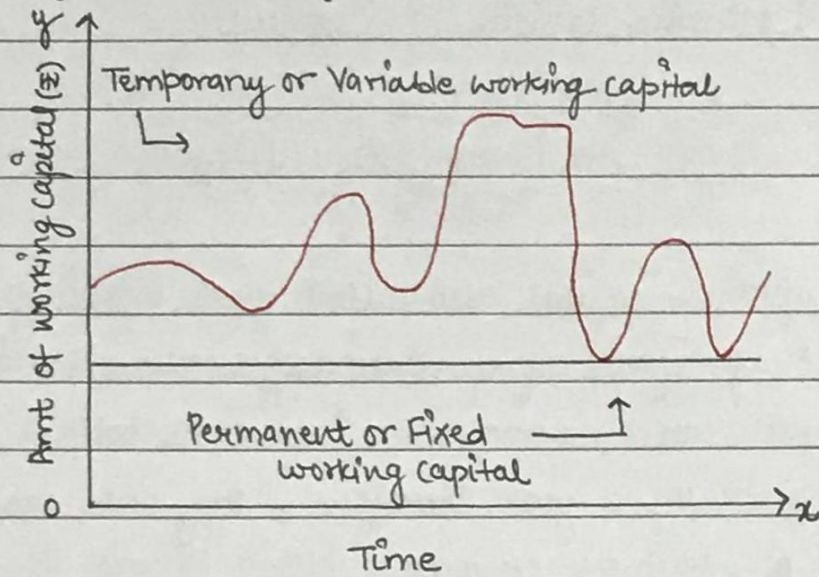
Current Assets (CA)

- Inventories
 - Raw Material.
 - work in progress.
 - finished Goods.
- Receivables
 - Debtors
 - Bills Receivables
- cash and Bank (given)
- Prepaid expenses
- Accrued Income (O/S)

Current Liabilities (CL)

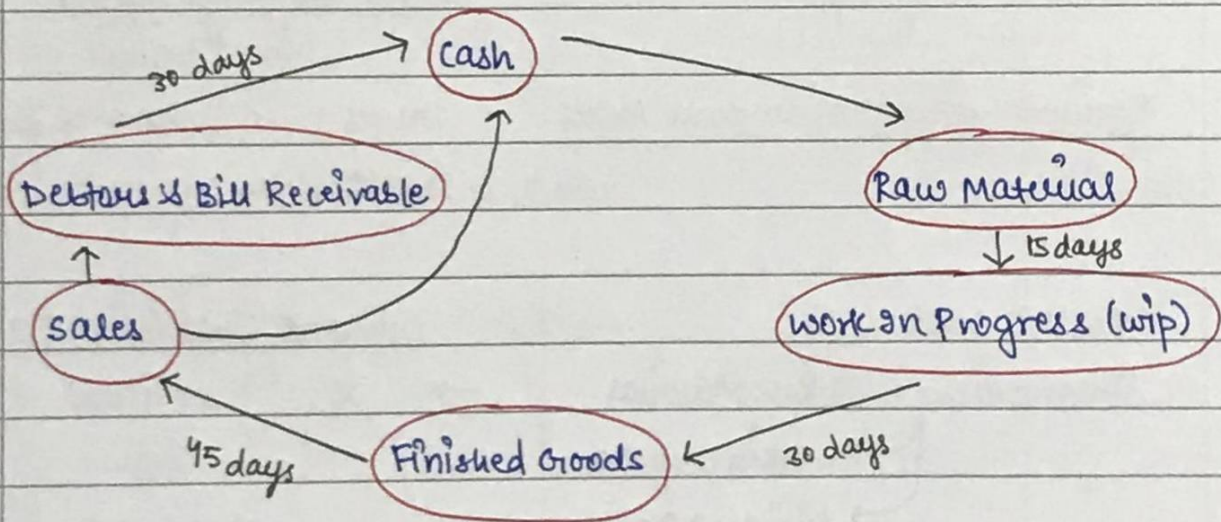
- X
- Payables
 - creditors
 - Bills Payable
- Bank overdrafts.
- O/S Expenses.
- Advance Income.

Types of working capital on the basis of Nature.



★ Operating Cycle :

↳ called as Cash to Cash Conversion cycle



Operating cycle Period = Raw material period + work in progress period
 (OCP) + Finished goods period + debtors period
 - creditors period.

Eg:- $OCP = 15 + 30 + 45 + 30 - 30 = 90 \text{ days}$

$$\text{no. of cycles in a year} = \frac{360 \text{ Days}}{\text{OCP}}$$

Eg: no. of cycles in a year = $\frac{360 \text{ days}}{90 \text{ days}} = \boxed{4 \text{ cycles}}$

Calculation of working capital :

	<u>Particulars</u>	<u>Amount (₹)</u>
A.	Estimation of current Assets.	
	i. Minimum desired cash and bank balances.	
	ii. Inventories.	
	→ Raw Material	
	→ work in Progress	
	→ Finished goods	
	iii. Debtors *	
	Total current Assets	xxx
B.	Estimation of current liabilities.	
	i. Creditors. **	
	ii. wages	
	iii. overheads	
	iv. Goods and service Tax (GST)	
	Total current liabilities	xxx
C.	Net working capital (A-B)	
(+)	Margin for contingency.	
D.	Net working capital required.	xxx

★ If payment is received in advance, the item would appear in Current liabilities.

★★ If advance payment is made to creditors, the item would appear under Current Assets. The same would be treatment of advance payment of wages and overheads.

Operating cycle Period = RM period + WIP period + FG period + Debtors period - Creditors period.

If not given directly, need to be calculated.

1. Calculation of Raw material Period :

$$\text{RM period} = \frac{\text{Average stock of Raw Material}}{\text{Raw material consumed per period}}$$

→ $\frac{\text{opening} + \text{closing}}{2}$

Eg:- opening = closing RM = 1,50,000

RM consumed per period = 12,00,000 pa

no. of days in a year = 360 days

$$\text{RM consumption per period} = \frac{12,00,000}{360} = \boxed{3,333.33}$$

$$\text{RM period} = \frac{1,50,000}{3,333.33} = \boxed{45 \text{ days}}$$

$$\text{no. of cycles in a year} = \frac{360 \text{ days}}{45 \text{ days}} = \boxed{8 \text{ cycles}}$$

2. Calculation of work in progress Holding Period :

$$\text{WIP Holding period} = \frac{\text{Average stock of work in Progress}}{\text{Cost of Production per period}}$$

→ $\frac{\text{op.} + \text{cl.}}{2}$

	RM	labour	Factory OH / manufacturing OH
→ Given	✓	✓	✓
→ If not given, then to be assumed.	100%	50%	50%

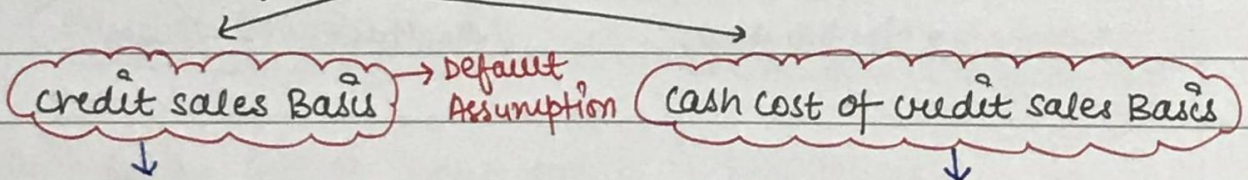
3. Calculation of Finished Goods Period :

$$\text{FG period} = \frac{\text{Average stock of finished goods}}{\text{Cost of goods sold per period}}$$

→ $\frac{\text{op.} + \text{cl.}}{2}$

	RM	labour	Factory OH	Admin OH.
→ Given	✓	✓	✓	✓
→ If not given, then to be assumed.	100%	100%	100%	100%

4. Calculation of Debtor's Period :



$$\frac{\text{Average Balance of Debtors}}{\text{Credit sales per day}}$$

$$\frac{\text{Average Balance of Debtors}}{\text{Cash cost of credit sales per day}}$$

	RM	labour	Factory OH	Admin. OH	selling & Distribution OH.
					other than Depreciation

5. Calculation of creditor's period :

$$\text{creditors period} = \frac{\text{Average Balance of creditors}}{\text{Credit purchases per day/period}} \rightarrow \frac{\text{op. + cl.}}{2}$$

imp Note:- Average Balance is always calculated using the formula -

$$= \frac{\text{opening balance} + \text{closing balance}}{2}$$

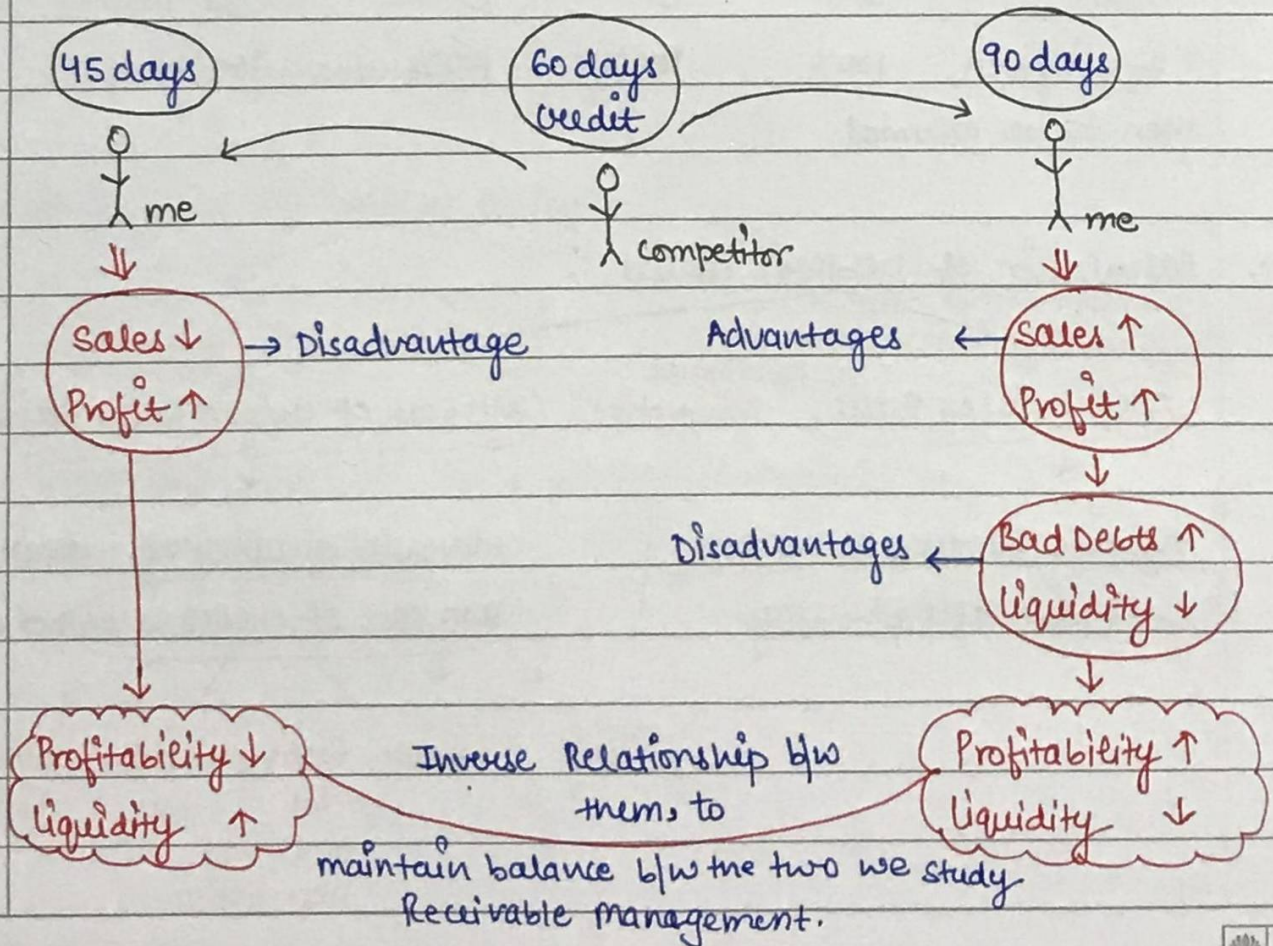
But; unless otherwise specified we assume -

Opening Balance = closing Balance = Average Balance

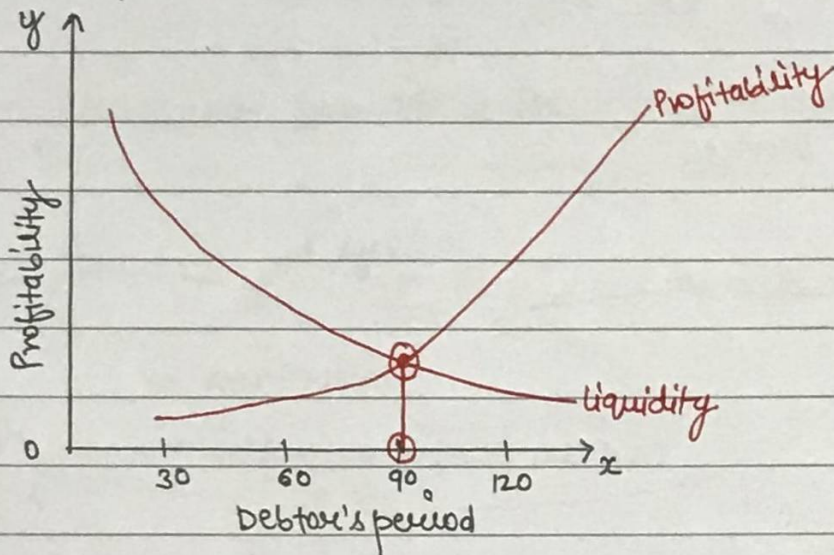
Receivable Management

↓ ↓
Debtors Bills Receivables

Eg:-



Purpose: To find out optimum credit period.



Stages of credit evaluation of customer -

- step 1- Gathering credit information of the customer.
- step 2- credit analysis.
- step 3- credit decisions.
- step 4- credit limit.
- step 5- collection procedure.

Evaluation of Debtor's Policy -

Based on Total Approach

Based on Incremental Approach

Opportunity cost of Investments in Receivables :

$$= \frac{[\text{variable cost} + \text{fixed cost}] \times \text{ROR} \times \text{credit period}}{360/365 \text{ days} / 12 \text{ months}}$$

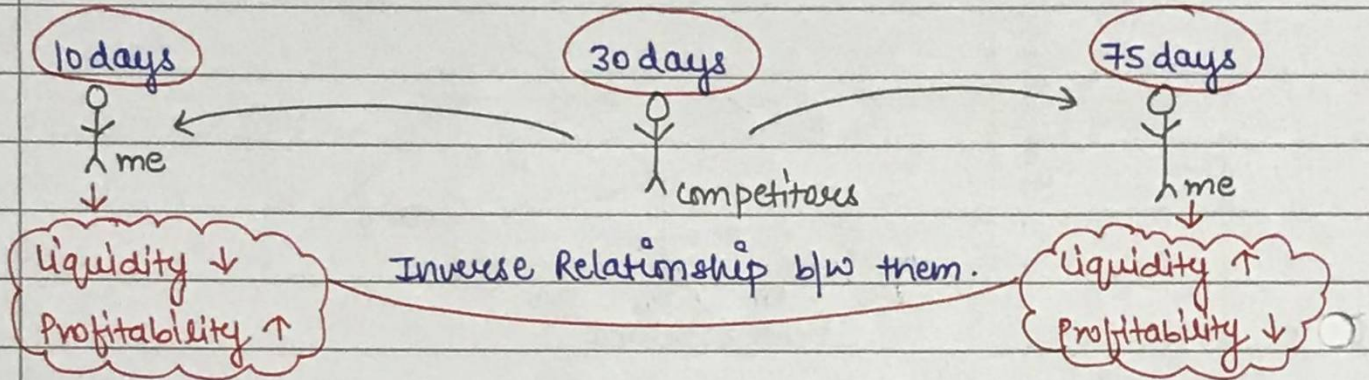
360/365 days/12 months

Payable Management

creditors/ suppliers/
vendors

Bills payables.

Eg:-



★ Computation of cost of credit on payables:

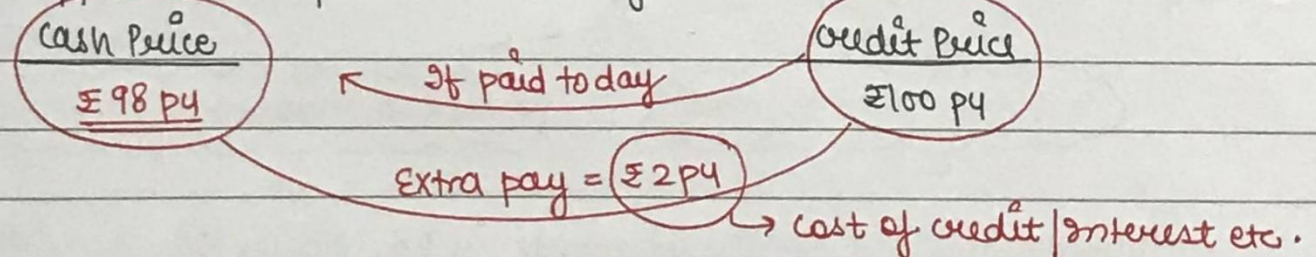
$$\text{cost of credit on payables} = \frac{d}{(100 - d)} \times \frac{365 \text{ days}}{t}$$

where, d = size of discount or discount %.

t = Allowed payment days - discount days.

Eg:-

suppose credit period = 60 days



$$2\% \text{ terms} = \frac{2}{98} \times \frac{365 \text{ days}}{60 \text{ days}}$$

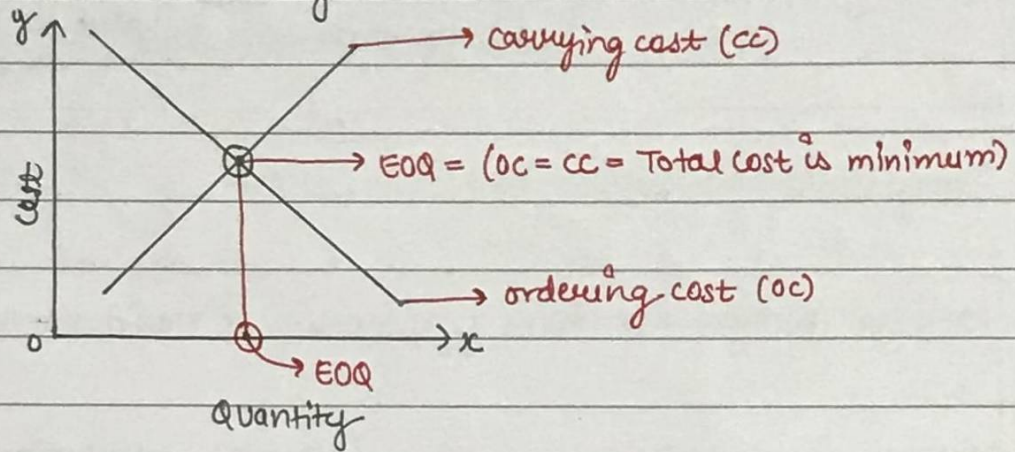
$$= 12.41\%$$

For 60 days

So, for 365 days = ??

Management of Inventory

★ Economic order quantity (EOQ) :



$$EOQ = \sqrt{\frac{2AO}{C}}$$

∴ where, A = Annual Requirement.

O = ordering cost per order.

C = carrying cost per unit per annum

Eg: Calculate the Economic order Quantity from the following information.

consumption of material pa = 10,000 kg

order placing cost per order = £50

cost per kg. of Raw material = £2

storage cost = 8% on avg inventory

$$EOQ = \sqrt{\frac{2AO}{C}}$$

$$EOQ = \sqrt{\frac{2 \times 10,000 \times 50}{\frac{2 \times 8}{100}}} = \sqrt{\frac{2 \times 10,000 \times 50 \times 25}{4}}$$

$$EOQ = 2,500 \text{ kg}$$

no. of orders to be placed in a year = $\frac{\text{Total consumption of material pa}}{EOQ}$

$$= \frac{10,000 \text{ kg}}{2,500 \text{ kg}} = 4 \text{ orders per year.}$$

* Inventory Turnover Ratio :

$$\text{Inventory T/O Ratio} = \frac{\text{COGS}}{\text{Avg Inventory}} \quad \text{OR} \quad \frac{\text{Value of material consumed during the period}}{\text{value of Avg stock held during the period}}$$

* Fixing Levels of Materials :

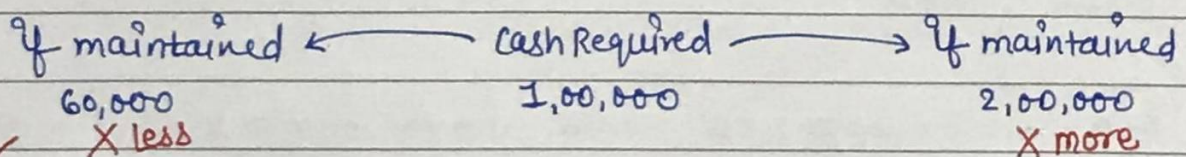
$$\Rightarrow \text{Reorder level} = \text{maximum consumption} \times \text{Maximum lead time}$$

$$\Rightarrow \text{Minimum level} = \text{Reorder level} - (\text{Normal / Avg consumption} \times \text{Normal / Avg lead time})$$

$$\Rightarrow \text{Maximum level} = \text{Reorder level} + \text{Reorder Qty (EOQ)} - (\text{minimum consumption} \times \text{minimum lead time})$$

$$\Rightarrow \text{Danger level} = \text{Normal / Avg consumption} \times \text{maximum lead time for emergency purchase.}$$

Cash Management



→ Thus, to maintain optimum cash balance, we will study cash management.

* Motive of Holding cash -

1. Transaction Motives.
2. Precautionary Motives.

3. Speculative Motives.
4. Compensating Motives.

★ Optimum Cash Balance as per Baumol model -

$$C = \sqrt{\frac{2 \times A \times F}{O}}$$

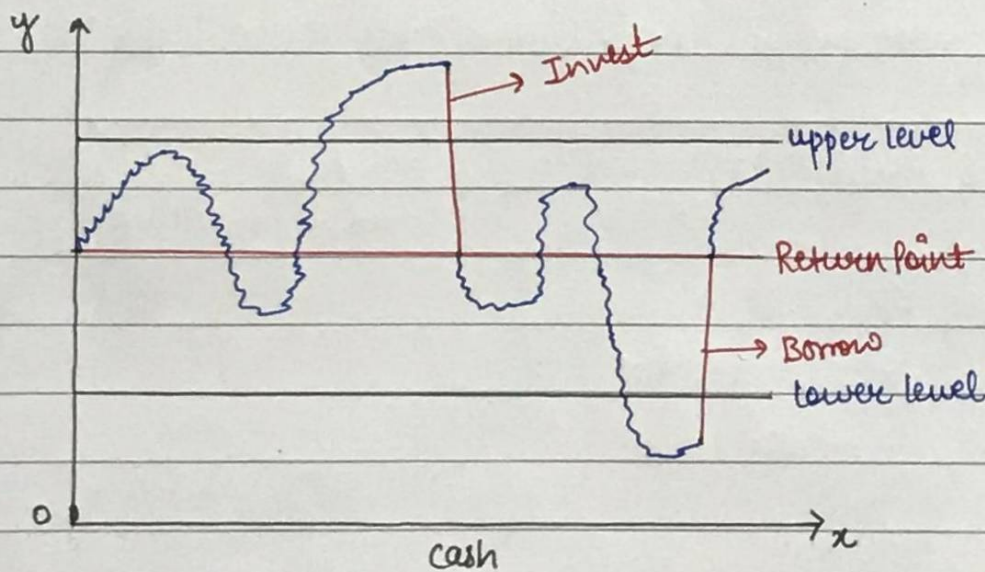
where; C = optimum cash balance

A = Annual cash disbursement.

F = Fixed cost per transaction.

O = opportunity cost of one rupee per annum.

★ Miller - Orr Model -



$$Z = \left(\frac{3}{4} \times \frac{C \sigma^2}{K} \right)^{1/3} \quad \text{where; } Z = \text{Lower limit}$$

$$\text{Upper limit} = \text{Lower limit} + 3Z$$

$$\text{Return point} = \text{Lower limit} + Z$$

Financing working capital

imp
★

Calculation of MPBF as per Tandon Committee -

Least of
these 3 methods
can be used
to lend.

$$\text{First method} = 75\% \text{ of } (CA - CL)$$

$$\text{Second method} = (75\% \text{ of } CA) - CL$$

$$\text{Third method} = (75\% \text{ of } CA - CCA) - CL$$

where, CA = Current Assets

CCA = Core current Assets

CL = Current Liabilities (excluding bank borrowings)

★ Commercial Paper -

↳ credit period ranges from 91 days to 360 days.

mcq →

$$\text{Interest yield} = \left(\frac{FV - IP}{SP} \right) \times \frac{360 \text{ days}}{\text{days of maturity}}$$

where; FV = Face Value.

IP = Issued Price.

SP = Sale Price.