Financial Ratio Analysis

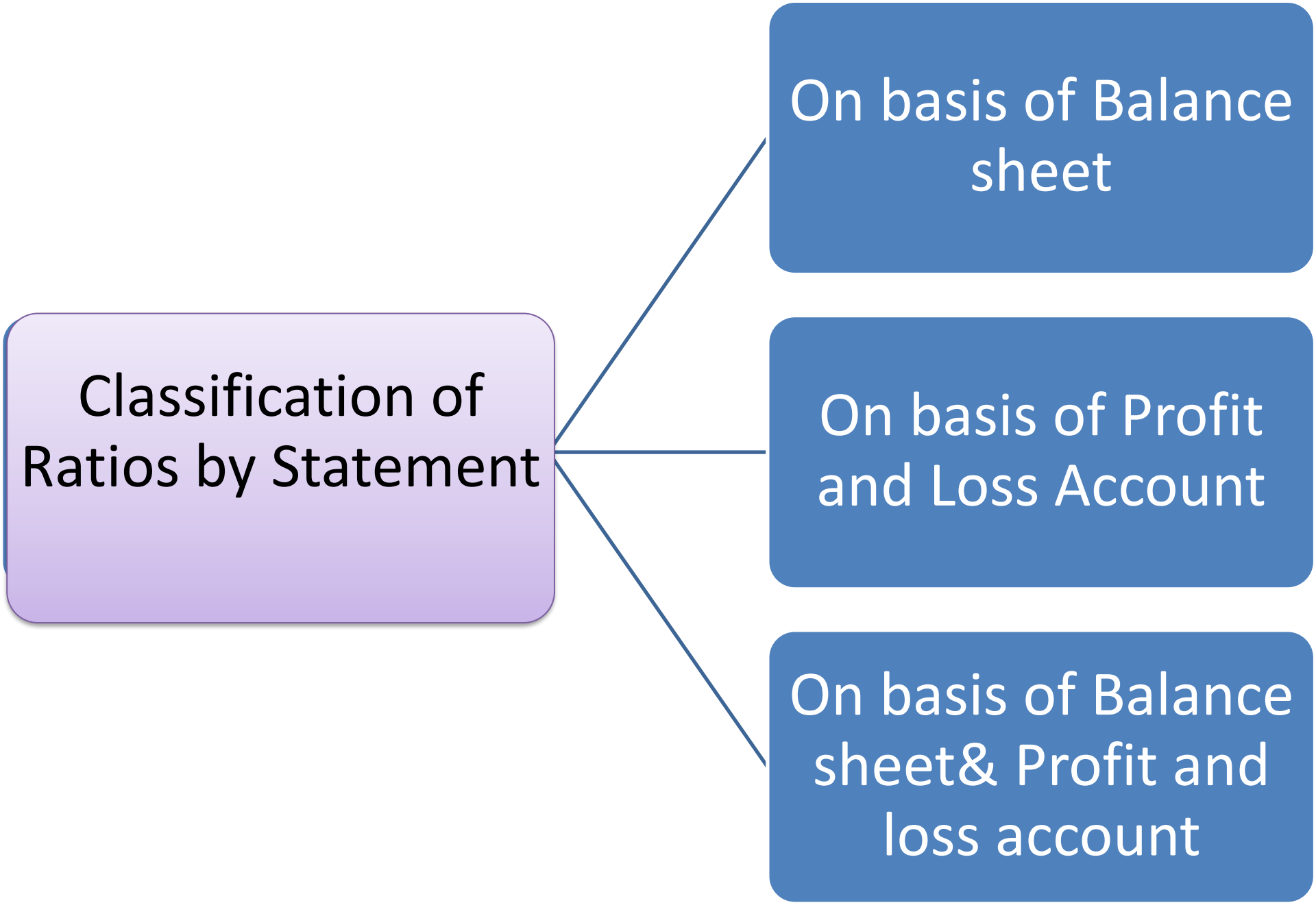
Unit-5

RATIO ANALYSIS

- Ratio analysis is a commonly used tool of financial statement analysis.
- Ratio is a mathematical relationship between one number to another number.
- Ratio is used as an index for evaluating the financial performance of the business concern.
- An accounting ratio shows the mathematical relationship between two figures, which have meaningful relation with each other .

RATIO ANALYSIS

- Ratio can be used in the form of
- (1) percentage (20%)
- (2) Quotient (say 10) and
- (3) Rates. In other words, it can be expressed as a to b; a: b (a is to b) or as a simple fraction, integer and decimal. A ratio is calculated by dividing one item or figure by another item or figure.


Classification of Ratios by Statement
On basis of Balance sheet
On basis of Profit and Loss Account
On basis of Balance sheet& Profit and loss account

CLASSIFICATION OF RATIOS

- Ratios may be broadly classified in to:
  (1) Classification of Ratios on the basis of Balance Sheet.

- (2) Classification of Ratios on the basis of Profit and Loss Account.

- (3) Classification of Ratios on the basis of Mixed Statement (or) Balance Sheet and Profit and Loss Account.

CLASSIFICATION OF RATIOS

- This classification further grouped in to:
  I. Liquidity Ratios
  II. Profitability Ratios
  III. Turnover Ratios
  IV. Solvency Ratios
  V. Over all Profitability Ratios

CLASSIFICATION OF RATIOS

- These classifications are discussed hereunder :

1. Classification of Ratios on the basis of Balance Sheet:

   Balance sheet ratios which establish the relationship between two balance sheet items. For example, Current Ratio, Fixed Asset Ratio, Capital Gearing Ratio and Liquidity Ratio etc

CLASSIFICATION OF RATIOS

- 2. Classification on the basis of Income Statements:

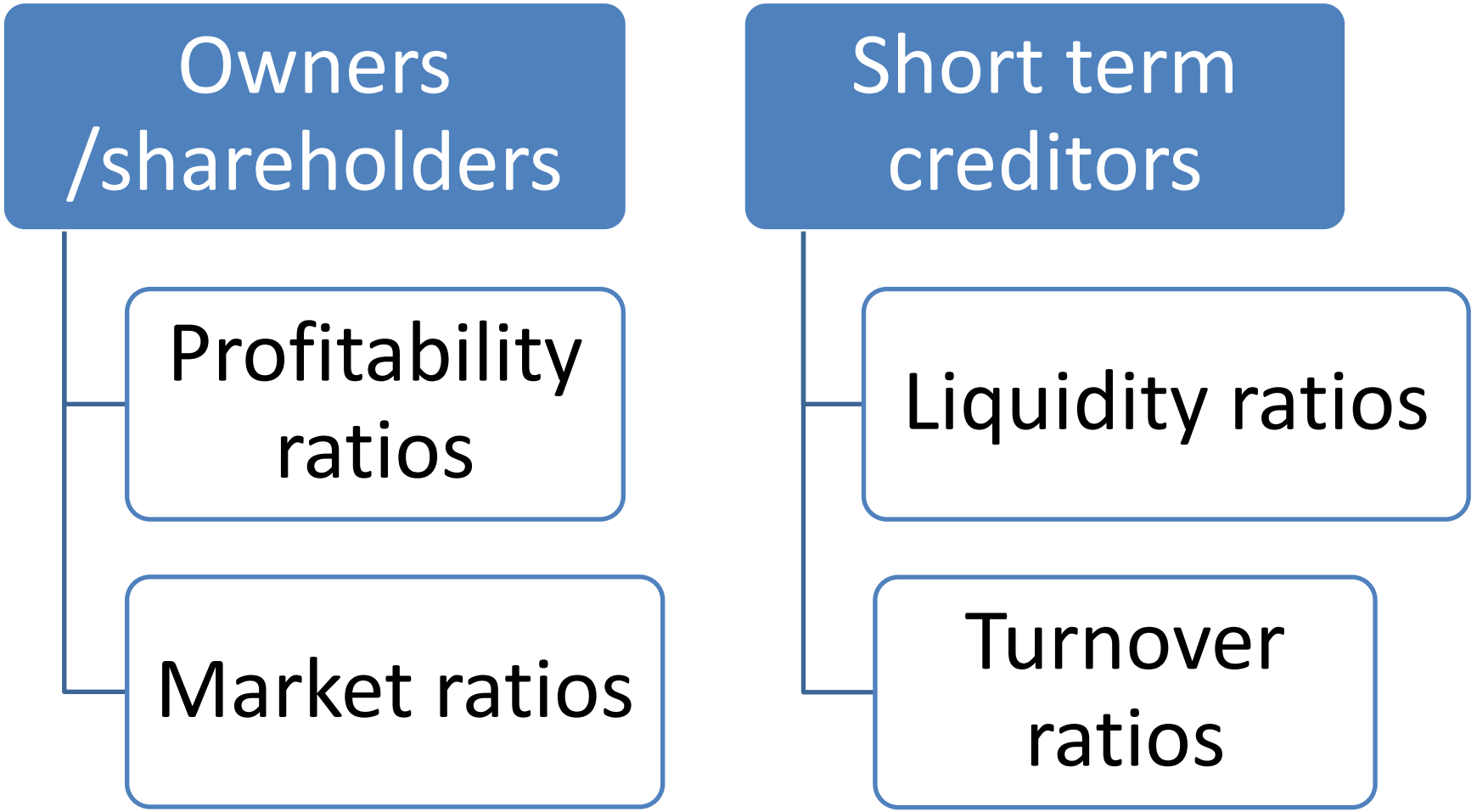
  These ratios deal with the relationship between two items or two group of items of the income statement or profit and loss account.

  For example,
  Gross Profit Ratio, Operating Ratio, Operating Profit Ratio, and Net Profit Ratio etc.

CLASSIFICATION OF RATIOS

- 3. Classification on the basis of Mixed Statements: These ratios also known as Composite or Mixed Ratios or Inter Statement Ratios. The inter statement ratios which deal with relationship between the item of profit and loss account and item of balance sheet. For example, Return on Investment Ratio, Net Profit to Total Asset Ratio, Creditor's Turnover Ratio, Earning Per Share Ratio and Price Earning Ratio etc

Summary of ratios with group having direct interest



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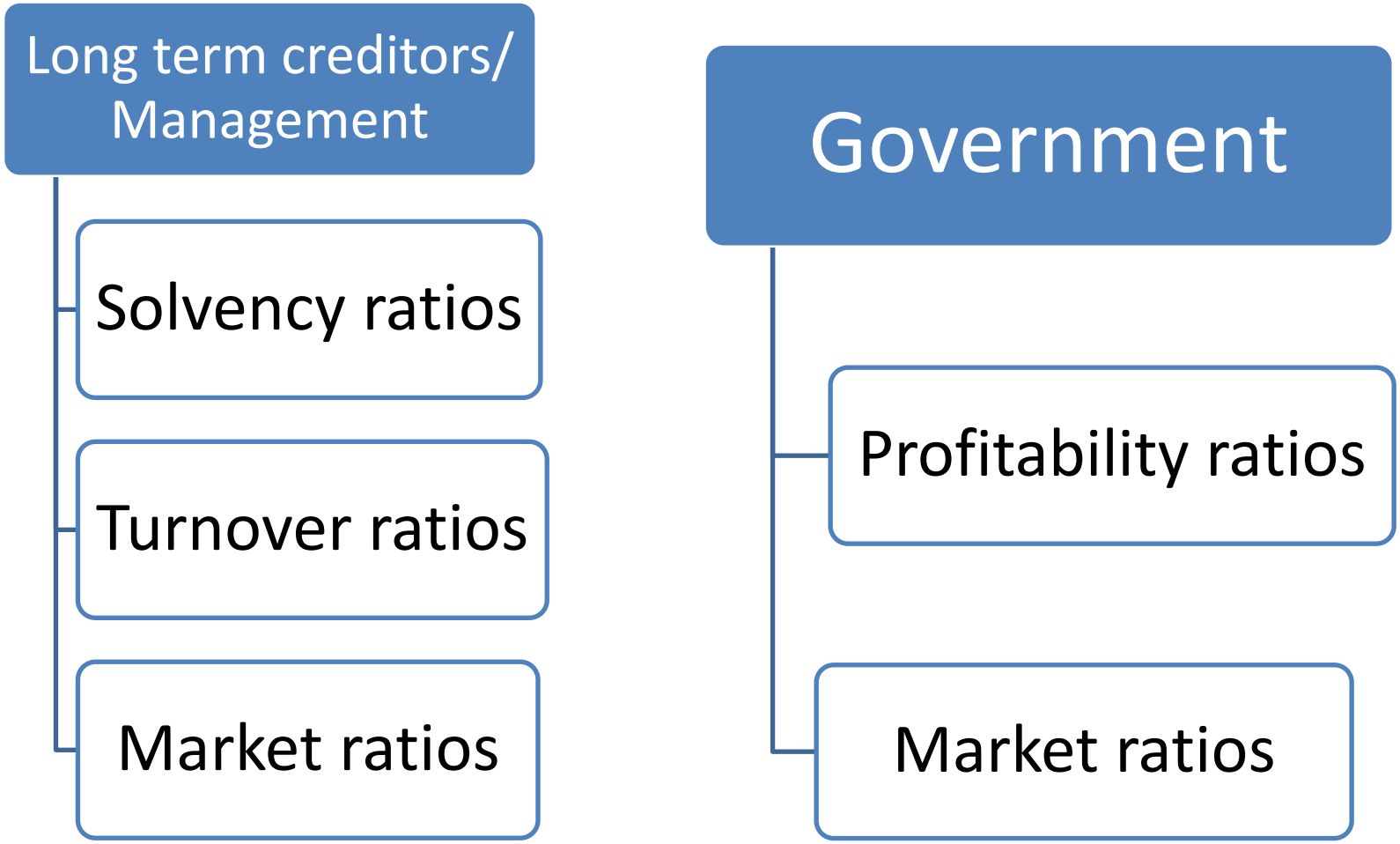

Liquidity Ratios

- It is also called as short-term ratio.
- This ratio helps to understand the liquidity in a business which is the potential ability to meet current obligations. This ratio expresses the relationship between current assets and current assets of the business concern during a particular period.

Liquidity Ratio

S.No	RATIO	Formula	Significant Ratio
1	Current Ratio	Current Assets / Current Liability	2 : 1
2	Quick Ratio	Quick Assets / Quick / Current Liability or Current Assets – inventory(stock) / Current Liability	1 : 1
3	Cash Ratio	Cash Marketable Securities / Current Liability	0.5:1

Current Ratio

- **Components of Current Assets**
  1.Cash in Hand
  2.Cash at Bank
  3.Sundry Debtors
  4.Bills Receivable
  5.Marketable Securities
  6.(Short-Term)Other Short-Term Investments
  7.Inventorie/ Stock

Current Ratio

- **Components of Current Liabilities:**
  1. Sundry Creditors
  2. (Accounts Payable) Bills Payable
  3. Outstanding and Accrued Expenses
  4. Income Tax Payable
  5. Short-Term Advances
  6. Unpaid or Unclaimed Dividend
  7. Bank Overdraft (Short-Term period)

Current Ratio

- $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Note :

- The Current Ratio is 2:1

Quick Ratio

- Quick Ratio also termed as Acid Test or Liquid Ratio.
- Quick Ratio establishes the relationship between the quick assets and current liabilities.
- The ideal Quick Ratio of I: I is considered to be satisfactory.
- Quick Ratio = $\frac{\text{Quick Assets}}{\text{Quick / Current Liability}}$

Quick Assets :

Current Assets - (Inventories + Prepaid expenses)

Absolute Liquid Ratio /Cash Ratio

- Absolute Liquid Ratio is also called as Cash Position Ratio (or) Over Due Liability Ratio. This ratio established the relationship between the absolute liquid assets and current iabilities.
- Absolute Liquid Assets include cash in hand, cash at bank, and marketable securities or temporary investments.

Absolute Liquid Ratio

- Absolute Liquid Ratio :

$$\frac{\text{Absolue Liquid Assets}}{\text{Current Liabilities}}$$

Note :

The ideal Absolute Liquid Ratio : **0.5 :1**

Problems

Components of Current Assets and Current Liabilities

Current Assets	*Current Liabilities*
1. Cash in Hand	1. Sundry Creditors (Accounts Payable)
2. Cash at Bank	2. Bills Payable
3. Sundry Debtors	3. Outstanding and Accrued Expenses
4. Bills Receivable	4. Income Tax Payable
5. Marketable Securities (Short-Term)	5. Short-Term Advances
6. Other Short-Term Investments	6. Unpaid or Unclaimed Dividend
7. Inventories : (a) Stock of raw materials (b) Stock of work in progress (c) Stock of finished goods	7. Bank Overdraft (Short-Term period)

Interpretation of Current Ratio: The ideal current ratio is 2:1. It indicates that current assets double the current liabilities is considered to be satisfactory. Higher value of current ratio indicates more liquid of the firm's ability to pay its current obligation in time. On the other hand, a low value of current ratio means that the firm may find it difficult to pay its current ratio as one which is generally recognized as the patriarch among ratios.

Advantages of Current Ratios:

(1) Current ratio helps to measure the liquidity of a firm.

(2) It represents general picture of the adequacy of the working capital position of a company.

(3) It indicates liquidity of a company.

(4) It represents a margin of safety, i.e., cushion of protection against current creditors.

(5) It helps to measure the short-term financial position of a company or short-term solvency of a firm.

Disadvantages of Current Ratio:

(1) Current ratios cannot be appropriate to all busineses it depends on many other factors.

(2) Window dressing is another problem of current ratio, for example, overvaluation of closing stock.

(3) It is a crude measure of a firm's liquidity only on the basis of quantity and not quality of current assets.

Calculation of Current Ratio:

Illustration: 1

The following information relates to Mishra & Co. for the year 2003, calculate current ratio:

Current Assets	Rs. 5,00,000
Current Liabilities	Rs. 2,00,000

Solution:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$= \frac{5,00,000}{2,00,000}$$

$$= 2.5 \text{ (or) } 2.5 : 1$$

The current ratio of 2.5 means that current assets are 2.5 times of current liabilities.

Illustration: 2

Calculate Current Ratio from the following Information

Liabilities	*Rs.*	*Assets*	*Rs.*
Sundry creditors	40,000	Inventories	1,20,000
Bills payable	30,000	Sundry debtors	1,40,000
Dividend payable	36,000	Cash at Bank	40,000
Accrued expenses	14,000	Bills Receivable	60,000
Short-term advances	50,000	Prepaid expenses	20,000
Share Capital	1,50,000	Machinery	2,00,000
Debenture	2,00,000	Patents	50,000
		Land & Building	1,50,000

Solution:

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

$$\text{Current Assets} = \text{Rs. } 1,20,000 + 1,40,000 + 40,000 + 60,000 + 20,000$$

$$= \text{Rs. } 3,80,000$$

$$\text{Current Liabilities} = \text{Rs. } 40,000 + 30,000 + 36,000 + 14,000 + 50,000$$

$$\text{Rs. } 1,70,000$$

$$\text{Current Ratio} = \frac{3,80,000}{1,70,000}$$

$$= 2.24 \text{ (or) } 2.24 : 1$$

(2) Quick Ratio (or) Acid Test or Liquid Ratio

Quick Ratio also termed as Acid Test or Liquid Ratio. It is supplementary to the current ratio. The acid test ratio is a more severe and stringent test of a firm's ability to pay its short-term obligations as and when they become due. Quick Ratio establishes the relationship between the quick assets and current liabilities. In order to compute this ratio, the below presented formula is used :

$$\text{Liquid Ratio} = \frac{\text{Liquid Assets}\ (\text{Current Assets} - \text{Stock and Prepaid Expenses})}{\text{Current Liabilities}}$$

Quick Ratio can be calculated by two basic components of quick assets and current liabilities.

Quick Assets = Current Assets – (Inventories + Prepaid expenses)

Current liabilities represent those liabilities which are payable within a year.

The ideal Quick Ratio of 1:1 is considered to be satisfactory. High Acid Test Ratio is an indication that the firm has relatively better position to meet its current obligation in time. On the other hand, a low value of quick ratio exhibiting that the firm's liquidity position is not good.

Advantages

(1) Quick Ratio helps to measure the liquidity position of a firm.

(2) It is used as a supplementary to the current ratio.

(3) It is used to remove inherent defects of current ratio.

Illustration: 3

Calculate Quick Ratio from the information given below :

	Rs.
Current Assets	4,00,000
Current Liabilities	2,00,000
Inventories (stock)	25,000
Prepaid Expenses	25,000
Land and Building	4,00,000
Share Capital	3,00,000
Good Will	2,00,000

Solution:

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}}$$

$$= \frac{\text{Current Assets} - (\text{Inventories} + \text{Prepaid Expenses})}{\text{Current Liabilities}}$$

$$= \frac{\text{Rs. } 4,00,000 - (25,000 + 25,000)}{\text{Rs. } 2,00,000}$$

$$= \frac{\text{Rs. } 4,00,000 - 50,000}{\text{Rs. } 2,00,000}$$

$$= \frac{\text{Rs. } 3,50,000}{2,00,000}$$

$$= 1.75 \text{ (or) } 1.75 : 1$$

(3) Absolute Liquid Ratio

Absolute Liquid Ratio is also called as Cash Position Ratio (or) Over Due Liability Ratio. This ratio established the relationship between the absolute liquid assets and current liabilities. Absolute Liquid Assets include cash in hand, cash at bank, and marketable securities or temporary investments. The optimum value for this ratio should be one, i.e., 1 : 2. It indicates that 50% worth absolute liquid assets are considered adequate to pay the 100% worth current liabilities in time. If the ratio is relatively lower than one, it represents that the company's day-to-day cash management is poor. If the ratio is considerably more than one, the absolute liquid ratio represents enough funds in the form of cash to meet its short-term

obligations in time. The Absolute Liquid Ratio can be calculated by dividing the total of the Absolute Liquid Assets by Total Current Liabilities. Thus,

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

Illustration: 4

Calculate Absolute Liquid Ratio from the following Information

Liabilities	*Rs.*	*Assets*	*Rs.*
Bills Payable	30,000	Goodwill	2,00,000
Sundry Creditors	20,000	Land and Building	2,00,000
Share Capital	1,00,000	Inventories	50,000
Debenture	2,00,000	Cash in Hand	30,000
Bank Overdraft	25,000	Cash at Bank	20,000
		Sundry Debtors	50,000
		Bills Payable	75,000
		Marketable Securities	10,000

Solution:

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}}$$

Absolute Liquid Assets = Cash in Hand + Cash at Bank + Marketable Securities
= Rs. 30,000 + 20,000 + 10,000
= Rs. 60,000

Current Liabilities = Rs. 30,000 + 20,000 + 25,000
= Rs. 75,000

$$\text{Absolute Liquid Ratio} = \frac{60,000}{75,000}$$

= 0.8

The ratio of 0.8 is quite satisfactory because, it is much higher than the optimum value of 50%.