

## ACCOUNTING RATIOS - I

### 31.1 INTRODUCTION

In the previous lesson, you have learnt that the relationship between various items in the financial statements are expressed by means of accounting ratios. You also learnt the need of accounting ratios and their significance to different groups of persons. Accounting ratios are calculated from the financial statements to arrive at meaningful conclusions pertaining to liquidity, profitability, solvency, etc. Depending upon the type of information required, accounting ratios can be of different types. In this lesson, we will learn about different types of ratios and their calculations.

### 31.2 OBJECTIVES

After studying this lesson, you will be able to :

- classify the ratios on different bases;
  - recall various current assets and current liabilities;
  - differentiate between current assets and liquid assets;
  - compute the current ratio and quick ratio;
  - identify the concept of 'turnover' in business operations;
  - list out three important turnover ratios, viz., stock turnover, debtors turnover, and creditors turnover ratios;
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- compute stock turnover ratio, debtors turnover ratio, and creditors turnover ratio.

### 31.3 CLASSIFICATION OF RATIOS

There are number of ratios and they can be classified in a number of ways. Broadly, ratios can be grouped into the following categories:-

- A. Liquidity Ratios
- B. Activity or Turnover Ratios
- C. Profitability Ratios

*Note* : Profitability Ratios and Debt-equity Ratio will be discussed in next lesson.

#### A Liquidity Ratios

Liquidity refers to the ability of the company to meet its current liabilities. Liquidity ratios assess the capacity of the firm to repay its short-term liabilities. Thus, liquidity ratios measure the firm's ability to fulfil short-term commitments out of its liquid assets. Liquidity ratios are not only useful for the short-term creditors of the firm who are interested in receiving the payment of their dues but also useful for the management. They are called liquidity ratios because they give an indication of the degree of liquidity of the current assets of the company. These ratios are also called 'Balance Sheet Ratios' because their components appear in the Balance Sheet. The important liquidity ratios are :-

##### i) Current Ratio

This ratio establishes a relationship between current assets and current liabilities. The objective of computing this ratio is to measure the ability of the firm to meet its short-term liabilities and to ascertain short-term financial strength or solvency of a firm. It compares the current assets and current liabilities of the firm. This ratio is calculated as under:-

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

Where :-

**Current Assets** are those assets which are available in form of cash or can be converted into cash within a short period not exceeding one year. It includes the following :-

- |                          |                    |
|--------------------------|--------------------|
| i) Cash in hand          | ii) Cash at bank   |
| iii) Bills Receivable    | iv) Sundry Debtors |
| v) Short-term Investment | vi) Stock          |
| vii) Prepaid expenses.   |                    |

**Current Liabilities** are those liabilities which are expected to be paid within a year such as :-

- |                      |                          |
|----------------------|--------------------------|
| i) Bills payable     | ii) Sundry creditors     |
| iii) Bank overdraft  | iv) Outstanding expenses |
| v) Provision for Tax | vi) Unclaimed dividend.  |

### Significance

It indicates the amount of current assets available for repayment of current liabilities. The ideal current ratio is 2:1. Higher the ratio, greater the margin of safety for short-term creditors and vice versa. However, a very high ratio or a very low ratio calls for further investigation because the high ratio may indicate the presence of idle funds with the firm. The low ratio indicates that short-term commitments may not be met, creditors may become panicky.

### Example 1

Calculate Current Ratio from the following :-

	Rs.
Sundry Debtors	4,00,000
Stock	1,60,000
Marketable Securities	80,000
Cash	1,20,000
Prepaid Expenses	40,000
Bills Payable	80,000
Sundry Creditors	1,60,000
Debentures	2,00,000
Expenses Payable	1,60,000

**Solution**

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

$$\begin{aligned} \text{Current Assets} &= \text{Sundry Debtors} + \text{Stock} + \text{Marketable Securities} + \text{Cash} + \text{Prepaid Expenses} \\ &= \text{Rs.}(4,00,000 + 1,60,000 + 80,000 + 1,20,000 + 40,000) \\ &= \text{Rs.}8,00,000 \end{aligned}$$

$$\begin{aligned} \text{Current Liabilities} &= \text{Bills Payable} + \text{Sundry Creditors} + \text{Expenses Payable} \\ &= \text{Rs.}(80,000 + 1,60,000 + 1,60,000) \\ &= \text{Rs.}4,00,000 \end{aligned}$$

$$\text{Current Ratio} = \text{Rs.}8,00,000 / \text{Rs.}4,00,000 = 2:1$$

**Example 2:** From the Balance Sheet of XYZ Ltd. as on 31.12.96, calculate Current Ratio -

Liabilities	Amount Rs.	Assets	Amount Rs.
Equity Share Capital	24,000	Machinery	30,000
Profit & Loss A/c	6,000	Stock	12,000
Sundry Creditors	23,400	Sundry Debtors	9,000
Provision for Tax	600	Cash at Bank	2,280
		Prepaid Expenses	720
	<u>54,000</u>		<u>54,000</u>

**Solution**

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

$$\text{Current Assets} = \text{Stock} + \text{Sundry Debtors} + \text{Cash at Bank} + \text{Prepaid Expenses.}$$

$$\text{Current Liabilities} = \text{Sundry Creditors} + \text{Provision for Tax}$$

$$\begin{aligned} \text{Current Ratio} &= \frac{\text{Rs. } 12,000 + \text{Rs. } 9,000 + \text{Rs. } 2,280 + \text{Rs. } 720}{\text{Rs. } 23,400 + \text{Rs. } 600} \\ &= \frac{\text{Rs. } 24,000}{\text{Rs. } 24,000} = 1:1 \end{aligned}$$

## ii) Quick Ratio or Liquid Ratio or Acid Test Ratio

This ratio establishes a relationship between quick assets and current liabilities. This ratio measures the ability of the firm to pay its current liabilities almost immediately. For this purpose, stock and prepaid expenses are not taken into account as they cannot be converted into cash as quickly as Debtors and Bills Receivables. This ratio is calculated as under:-

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

where Liquid Assets include cash in hand, cash at bank, Bills Receivable, Sundry Debtors, Short Term investments, etc.

Or, Liquid Assets = Current Assets - (Stock + Prepaid Expenses) and, Current Liabilities include sundry Creditors, Bills Payable, Bank Overdraft, Outstanding Expenses, Short-term loan, Provision for Tax, etc.

### Significance

Quick Ratio is a measure of the instant debt paying capacity of the business enterprise. It is a measure of the extent to which liquid resources are immediately available to meet current obligations. A Quick Ratio of 1:1 is, usually, considered favourable.

**Example 3 :** Taking the same information as given in Example 1 calculate the Quick Ratio.

### Solution

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

$$\begin{aligned} \text{Quick Assets} &= \text{Current Assets} - (\text{Stock} + \text{Prepaid Expenses}) \\ &= \text{Rs. } 8,00,000 - (\text{Rs. } 1,60,000 + \text{Rs. } 40,000) \end{aligned}$$

$$= \text{Rs.}8,00,000 - \text{Rs.}2,00,000$$

$$= \text{Rs.}6,00,000$$

$$\text{Quick Ratio} = \text{Rs.}6,00,000/\text{Rs.}4,00,000 = 3:2 = 1.5:1.$$

**Example 4 :** Calculate Liquidity Ratios from the following :-

Total Current Assets	Rs.90,000
Stock (included in Current Assets)	Rs.30,000
Prepaid Expenses	Rs. 3,000
Current Liabilities	Rs.60,000

**Solution**

$$\text{A) Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{\text{Rs.}90,000}{\text{Rs.}60,000}$$

$$= 3:2 \text{ or } 1.5:1$$

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

$$= \frac{\text{Rs.}90,000 - (\text{Rs.}30,000 + \text{Rs.}3,000)}{\text{Rs.}60,000}$$

$$= \frac{\text{Rs.}57,000}{\text{Rs.}60,000} = .95:1$$

**Example 5**

The Balance Sheet of AB and Co. Ltd. shows the following figures :-

Issued Share Capital	Rs.1,52,000
Cash in Hand & at Bank	Rs. 30,000
Fixed Assets	Rs.1,13,000
Creditors	Rs. 20,000
5% Debentures	Rs. 24,000

Bills Payable	Rs. 4,000
Debtors	Rs. 18,000
Stock of finished goods	Rs. 52,000
General Reserve	Rs. 8,000
Profit & Loss A/c	Rs. 5,000

Calculate - (i) Current Ratio and, (ii) Liquid Ratio.

### Solution

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

$$\begin{aligned} \text{where Current Assets} &= \text{Cash in hand and at bank} + \\ &\quad \text{Debtors} + \text{stock of finished goods} \\ &= \text{Rs. } 30,000 + \text{Rs. } 18,000 + \text{Rs. } 52,000 \\ &= \text{Rs. } 1,00,000 \end{aligned}$$

$$\begin{aligned} \text{Current Liabilities} &= \text{Creditors} + \text{Bills Payable} \\ &= \text{Rs. } 20,000 + \text{Rs. } 4,000 \\ &= \text{Rs. } 24,000 \\ &= \frac{\text{Rs. } 1,00,000}{\text{Rs. } 24,000} = 4.26:1 \end{aligned}$$

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

$$\begin{aligned} \text{where Quick Assets} &= \text{Current Assets} - \text{Stock of finished} \\ &\quad \text{goods} \\ &= \text{Rs. } 1,00,000 - \text{Rs. } 52,000 \\ &= \text{Rs. } 48,000 \end{aligned}$$

$$\text{Quick Ratio} = \frac{\text{Rs. } 48,000}{\text{Rs. } 24,000} = 2:1$$

**Example 6**

From the following information, if Rs.1000 is paid to creditors what will be the effect (increase or decrease or no change) on current ratio. If before payment, balances are :-

Cash	Rs.15,000
Creditors	Rs. 7,500

**Solution**

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

$$\text{Before payment} = \frac{\text{Cash}}{\text{Creditors}} = \frac{\text{Rs.15,000}}{\text{Rs.7,500}} = 2:1$$

After paying Rs.1000 to creditors -

$$\begin{aligned} \text{Current Ratio} &= \frac{\text{Cash}}{\text{Creditors}} = \frac{\text{Rs.15,000} - \text{Rs.1,000}}{\text{Rs.7,500} - \text{Rs.1,000}} \\ &= \frac{\text{Rs.14,000}}{\text{Rs.6,500}} = 2.15:1 \end{aligned}$$

Hence, it increases the current ratio from 2:1 to 2.15:1.

**INTEXT QUESTIONS 31.1**

A. Select the current assets from the list given below:

Cash at Bank	Debtors
Stock	Prepaid Expenses
Short-term Investments	Goodwill
Machinery	Cash in Hand
Furniture	Patent Rights
Bills Receivables	

B. Fill in the blanks with suitable words or figures :

- i) Current Ratio =  $\frac{\text{Current Assets}}{\text{Current Liabilities}}$
- ii) The ideal current ratio is \_\_\_\_\_.
- iii) The ideal liquid ratio is \_\_\_\_\_.
- iv) The liquid ratio assumes that \_\_\_\_\_ cannot be converted into cash in time to pay current liabilities.
- v) Liquid Assets = \_\_\_\_\_ - (Stock+Prepaid Expenses)

C. i) Current Ratio is 3.5:1; Current Assets Rs.70,000. Calculate Current Liabilities.

ii) • Liquid Ratio is 1:1,

Stock is Rs.60,000; Current Liabilities are Rs.60,000.  
Calculate Current Assets.

iii) Current Ratio is 2:1

Current Assets are Rs.1,00,000

Calculate the current liabilities.

### 31.4 ACTIVITY OR TURNOVER RATIOS

Activity ratios measure how efficiently the enterprise employs its resources at its disposal. These ratios are calculated on the basis of sales or cost of sales. Higher sales mean better performance which also indicate optimum utilization of physical resources. These ratios are also known as "Turnover Ratios" or "Efficiency Ratios". These ratios relate the level of activity, represented by sales or cost of goods sold with the investment in various assets. These ratios are expressed as 'times' and should always be more than one. Some Activity Ratios are:-

### 1. Inventory Turnover Ratio or Stock Turnover Ratio.

This ratio establishes relationship between cost of goods sold and average stock or inventory. The ratio throws light on the efficient use of the stock. It also indicates whether the required minimum amount has been blocked in the stocks or not. This ratio provides guidelines to the management while framing stock management policy. It is calculated as under:-

$$\text{Stock Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}}$$

Where

$$\text{costs of goods sold} = \text{Opening stock} + \text{Purchases} + \text{Direct Expenses} - \text{Closing Stock.}$$

Or

$$\text{Costs of Goods sold} = \text{Sales} - \text{Gross Profit}$$

and

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

- \* If cost of goods sold is not given, the ratio is calculated from the sales.
- \* If only closing stock is given, then that may be treated as average stock.

### Significance

The ratio signifies the number of times on an average the inventory or stock is sold during the period. The high ratio is indicative of efficiency and the low ratio is indicative of inefficiency of stock management.

To judge whether the ratio is satisfactory or not it should be compared with its own past ratios or with the ratio of similar firms in the same industry or with industry's average.

### Example 7

Calculate Stock Turnover Ratio from the following information:

Opening Stock	Rs. 38,125
Closing Stock	Rs. 49,250
Sales	Rs.2,60,000
Sales Returns	Rs. 10,000
Purchases	Rs.1,61,125

**Solution**

$$\text{Stock Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

$$\text{Average Stock} = \frac{\text{Rs.}(38,125 + 49,250)}{2} = \text{Rs.}43,687.50$$

$$\begin{aligned} \text{Costs of Goods Sold} &= \text{Opening Stock} + \text{Purchases} - \text{Closing Stock.} \\ &= \text{Rs.}(38,125 + 1,61,125 - 49,250) \\ &= \text{Rs.}1,50,000 \end{aligned}$$

$$\text{Stock Turnover Ratio} = \frac{\text{Rs.}1,50,000}{\text{Rs.}43,687.50} = 3.43 \text{ times.}$$

**Example 8**

Opening Stock	Rs.19,000
Closing Stock	Rs.21,000
Sales	Rs. 2,00,000

Gross Profit 25% on Sales

Calculate Stock Turnover Ratio.

**Solution**

$$\begin{aligned} \text{Costs of Goods Sold} &= \text{Sales} - \text{Gross Profit} \\ &= \text{Rs.}2,00,000 - (25\% \text{ of Rs.}2,00,000) \end{aligned}$$



∴ Sales will be 125

When Sales are 125, Costs of Goods sold be 100

$$\begin{aligned} \text{" " " Rs.2,00,000 " " " " " } & \frac{100}{125} \times 2,00,000 \\ & = \text{Rs.1,60,000} \end{aligned}$$

Costs of Goods Sold = Rs.1,60,000

$$\begin{aligned} \text{Average Stock} &= \frac{\text{Opening Stock} + \text{Closing Stock}}{2} \\ &= \frac{\text{Rs.}(38,500 + 41,500)}{2} = \text{Rs.40,000} \end{aligned}$$

$$\text{Stock Turnover Ratio} = \frac{\text{Rs.1,60,000}}{\text{Rs.40,000}} = 4 \text{ times}$$

### Example 10

Sales for the year Rs.2,00,000

Opening Stock Rs.18,500

Closing Stock Rs.11,500

Rate of Gross Profit on Sales 25%

Calculate Stock Turnover Ratio

### Solution

$$\begin{aligned} \text{Stock Turnover Ratio} &= \frac{\text{Cost of goods sold}}{\text{Average Stock}} \\ \text{Costs of Goods Sold} &= \text{Sales} - \text{Gross Profit} \\ &= \text{Rs.2,00,000} - (25\% \text{ on Rs.2,00,000}) \\ &= \text{Rs.2,00,000} - \text{Rs.50,000} \\ &= \text{Rs.1,50,000} \\ \text{Average Stock} &= \frac{\text{Opening Stock} + \text{Closing Stock}}{2} \end{aligned}$$

$$\begin{aligned} \text{Average Stock} &= \frac{\text{Rs.18,500} + \text{Rs.11,500}}{2} \\ &= \text{Rs.15,000} \end{aligned}$$

$$\text{Stock Turnover Ratio} = \frac{\text{Rs.1,50,000}}{\text{Rs.15,000}} = 10 \text{ times}$$

**Example 11**

Balance Sheet of Mr. X&Y Ltd. as at 31st Dec., 1997 is :

Liabilities	Amount Rs.	Assets	Amount Rs.
Equity Share Capital	1,00,000	Cash in Hand	20,000
7% Debentures	1,00,000	Cash at bank	20,000
Bank Overdraft	40,000	Bills Receivable	1,00,000
Creditors	60,000	Investment	10,000
Profit & Loss A/c	20,000	Debtors	50,000
General Reserve	30,000	Stock	1,50,000
	<u>3,50,000</u>		<u>3,50,000</u>

Sales during the year 1997 were Rs.4,90,000

Calculate Stock Turnover Ratio.

**Solution**

$$\begin{aligned} \text{Stock Turnover Ratio} &= \frac{\text{Cost of goods sold}}{\text{Average Stock}} \\ &= \frac{\text{Rs.4,90,000}}{\text{Rs.1,50,000}} \\ &= 3.27 \text{ times} \end{aligned}$$

**Notes :** (A) In the absence of Average Stock, only closing stock is taken.

(B) In the absence of costs of Goods sold, "Sales" are taken.

## 2. Debtors Turnover Ratio

This ratio establishes a relationship between net credit sales and average Trade Debtors and Bills Receivable. The objective of computing this ratio is to determine the efficiency with which the trade debtors are managed. This ratio is also known as 'Ratio of Net Sales to Average Receivables'. It is calculated as under:-

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Debtors}}$$

Or Average Accounts Receivable

In case, figure of net credit sales is not available then it is calculated as follows assuming that all sales are credit sales.

$$\text{Debtors Turnover Ratio} = \frac{\text{Total Sales}}{\text{Average Accounts Receivables}}$$

Where

$$\text{Average Debtors} = \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2}$$

$$= \frac{\text{Opening Debtors} + \text{Opening Bills Receivable} + \text{Closing Debtors} + \text{Closing Bills Receivable}}{2}$$

**Note :** If opening Debtors are not available then closing debtors and Bills receivable are taken as average debtors.

### Significance

Debtors turnover ratio is an indication of the speed with which a company collects its debts. The higher the ratio the better it is because

it indicates that debts are being collected quickly. In general, a high ratio indicates the shorter collection period which implies prompt payment by debtors, and a low ratio indicates a longer collection period which implies delayed payments by debtors. To judge whether the ratio is satisfactory or not, it should be compared with own past ratios or with the ratio of similar firms.

### Debt Collection Period

This period shows an average period for which the credit sales remain outstanding and measures the quality of debtors. It indicates the rapidity or slackness with which the money is collected from debtors. This period may be calculated as under:-

$$\begin{aligned} \text{Debt Collection Period} &= \frac{\text{Average Trade Debtors}}{\text{Average Net Credit Sales per day}} \\ &= \frac{12 \text{ months or } 52 \text{ weeks or } 365 \text{ days}}{\text{Debtors Turnover Ratio}} \end{aligned}$$

$$\text{Note :- Average Credit Sales per day} = \frac{\text{Net Credit Sales for the year}}{\text{No. of working days in the year}}$$

### Example 12

Compute Debtors Turnover Ratio from the following data :

Total Sales	Rs.2,00,000
Cash Sales	Rs.40,000
Debtors in the beginning of the year	Rs.20,000
Debtors at the end of the year	Rs.60,000

### Solution

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Debtors}}$$

$$\begin{aligned} \text{Net Credit Sales} &= \text{Total Sales} - \text{Cash Sales} \\ &= \text{Rs.2,00,000} - \text{Rs.40,000} \\ &= \text{Rs.1,60,000} \end{aligned}$$

$$\begin{aligned} \text{Average Debtors} &= \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2} \\ &= \frac{\text{Rs.20,000} + \text{Rs.60,000}}{2} \\ &= \text{Rs.40,000} \end{aligned}$$

$$\begin{aligned} \text{Debtors Turnover Ratio} &= \frac{\text{Rs.1,60,000}}{\text{Rs.40,000}} \\ &= 4 \text{ times} \end{aligned}$$

**Example 13**

Calculate Debtors Turnover Ratio and debt collection period

$$\begin{aligned} \text{Total Sales} &= \text{Rs. 4,00,000} \\ \text{Cash Sales} &= 20\% \text{ of total sales} \\ \text{Debtors} &= \text{Rs.40,000} \\ \text{Bills Receivables} &= \text{Rs.1,20,000} \end{aligned}$$

**Solution**

$$\begin{aligned} \text{Debtors Turnover Ratio} &= \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}} \\ &= \frac{\text{Rs.4,00,000} - (20\% \text{ of Rs.4,00,000})}{\text{Rs.}(40,000 + 1,20,000)} \\ &= \frac{\text{Rs.4,00,000} - \text{Rs.80,000}}{\text{Rs.1,60,000}} \end{aligned}$$

$$= \frac{\text{Rs. } 3,20,000}{\text{Rs. } 1,60,000} = 2 \text{ times.}$$

$$\text{Debt Collection Period} = \frac{\text{Months in a year}}{\text{Debtors Turnover Ratio}}$$

$$= \frac{12}{4}$$

$$= 3 \text{ months.}$$

**Note :-**

When opening Debtors and Bills Receivables are not given then closing debtors and bills receivables are treated as average Debtors + B/R.

#### **Example 14**

Calculate Debtors Turnover Ratio from the following :

Sales	Rs. 1,50,000
Cost of Good sold	Rs. 1,20,000
Debtors	Rs. 16,000

#### **Solution**

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}}$$

$$= \frac{\text{Rs. } 1,50,000}{\text{Rs. } 16,000}$$

$$= 9.38 \text{ times.}$$

**Note :** If opening Debtors are not given then closing debtors are taken as average debtors.

### **3. Creditors Turnover Ratio**

This ratio establishes a relationship between net credit purchases and average trade creditors and Bills payable and is calculated as under :-

$$\text{Creditors Turnover Ratio} = \frac{\text{Net Credit Purchases}}{\text{Average Trade Creditors}}$$

or Average Bills Payable

$$\begin{aligned} \text{Average Creditors} &= \frac{\text{Creditors in the beginning} + \text{Creditors at the end}}{2} \\ &= \frac{\text{Opening Creditors} + \text{Opening Bills Payable} + \text{Closing Creditors} + \text{Closing Bills Payable}}{2} \end{aligned}$$

### Significance

Creditors turnover ratio helps in judging the efficiency in getting the benefit of credit purchases offered by suppliers of goods. A high ratio indicates the shorter payment period and a low ratio indicates a longer payment period.

### Debt Payment Period

This period shows an average period for which the credit purchases remain outstanding or the average credit period actually availed of:

$$\text{Debt Payment Period} = \frac{\text{Average Trade Creditors}}{\text{Average Net Credit purchases Per day}}$$

OR

$$= \frac{12 \text{ months or } 52 \text{ weeks or } 365 \text{ days}}{\text{Creditors Turnover Ratio}}$$

*Note* : Average Net Credit Purchases Per day

$$= \frac{\text{Net Credit Purchases for the year}}{\text{No. of working days in the year}}$$

### Example 15

Calculate Creditors Turnover Ratio and Debt Payment Period from the following information :

Liabilities	Rs.	Assets	Rs.
Cash Purchases	1,00,000	Total Purchases	4,07,000
Opening Sundry Creditors	25,000	Closing Sundry Creditors	50,000
Closing Bills Payable	25,000	Opening Bills Payable	20,000
Purchases Returns	7,000		

**Solution**

$$\text{Creditors Turnover Ratio} = \frac{\text{Net Credit Purchases}}{\text{Average Trade Creditors}}$$

$$\begin{aligned} \text{Net Credit Purchases} &= \text{Total Purchases} - \text{Cash Purchases} \\ &\quad - \text{Purchases Returns} \\ &= \text{Rs.4,07,000} - \text{Rs.1,00,000} - \text{Rs.7,000} \\ &= \text{Rs.3,00,000} \end{aligned}$$

$$\text{Average Creditors} = \frac{\text{Opening Creditors} + \text{Opening Bills Payable} + \text{Closing Creditors} + \text{Closing Bills Payable}}{2}$$

$$= \frac{\text{Rs.25,000} + \text{Rs.20,000} + \text{Rs.50,000} + \text{Rs.25,000}}{2}$$

$$= \frac{\text{Rs.1,20,000}}{2} = \text{Rs.60,000}$$

$$\text{Creditors Turnover Ratio} = \frac{\text{Rs.3,00,000}}{\text{Rs.60,000}} = 5 \text{ times}$$

$$\text{Debt Payment Period} = \frac{12 \text{ months}}{\text{Creditors Turnover Ratio}}$$

$$= \frac{12}{5} = 2-4 \text{ months}$$

**Example 16**

Calculate Creditors Turnover Ratio and Average age of payables :

Credit Purchases during 1997	Rs. 14,40,000
Closing Creditors	Rs. 1,44,000
Closing Bills Payable	Rs. 96,000

**Solution**

$$\begin{aligned} \text{Creditors Turnover Ratio} &= \frac{\text{Net Credit Purchases}}{\text{Average Accounts Payable}} \\ &= \frac{\text{Rs. 14,40,000}}{\text{Rs. 1,44,000} + \text{Rs. 96,000}} = \frac{\text{Rs. 14,40,000}}{\text{Rs. 2,40,000}} \\ &= 6 \text{ times} \end{aligned}$$

$$\begin{aligned} \text{Average age of Payables} &= \frac{\text{Months in a year}}{\text{Creditors Turnover Ratio}} \\ &= \frac{12}{6} = 2 \text{ months} \end{aligned}$$

**Note :** Where opening creditors and opening Bills payables are not given then closing Creditors and Bills Payable are taken as Average Accounts Payable.

**Example 17**

From the following information calculate opening Stock and Closing Stock :

Sales during the year =	Rs. 2,00,000
Gross profit on sales =	50%
Stock Turnover Ratio =	4 times

If Closing Stock was Rs. 10,000 more than the Opening Stock what will be the amounts for opening stock and closing stock?

**Solution**

$$\text{Sales} = \text{Rs.}2,00,000 \text{ (given)}$$

$$\text{G.P. on sales} = 50\% \text{ (given)}$$

$$\text{G.P.} = 2,00,000 \times \frac{50}{100} = 1,00,000$$

$$\begin{aligned} \text{Cost of goods sold} &= \text{Sales} - \text{G.P.} \\ &= \text{Rs.}2,00,000 - \text{Rs.}1,00,000 = \text{Rs.}1,00,000 \end{aligned}$$

$$\text{Stock Turnover Ratio} = \frac{\text{Costs of goods sold}}{\text{Average Stock}}$$

$$4 = \frac{\text{Rs.}1,00,000}{\text{Average Stock}}$$

∴ By Cross multiply

$$\text{Average Stock} = \frac{\text{Rs.}1,00,000}{4} = \text{Rs.}25,000$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2}$$

Let opening Stock be = x

$$\text{Closing Stock} = x + 10,000$$

$$\text{Average Stock} = \frac{x + x + 10,000}{2} = 25,000 \text{ (given)}$$

$$\text{or } x + x + 10,000 = 50,000$$

$$\text{or } 2x = 50,000 - 10,000$$

$$\text{or } 2x = 40,000$$

$$\text{or } x = 20,000$$

$$\text{Hence Opening Stock} = 20,000$$

$$\text{Closing Stock} = 20,000 + 10,000$$

$$= 30,000 \text{ (ans)}$$

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**INTEXT QUESTIONS 31.2**


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A. Fill in the Blanks with suitable word or words :

i. Inventory turnover Ratio is \_\_\_\_\_ divided by average inventories.

ii. Average Inventory =  $\frac{\text{Opening Inventory} + \text{Closing Inventory}}{2}$

iii. Low Debtors turnover Ratio indicates \_\_\_\_\_ collection.

iv. Average Debt Collection period =  $\frac{12 \text{ months}}{\text{Debtors turnover Ratio}}$

v. Debtors turnover Ratio =  $\frac{\text{Sales}}{\text{Average Debtors}}$

vi.  $\text{Average Debtors} = \frac{\text{Credit Purchases}}{\text{Debtors turnover Ratio}}$

B. Find out the missing Figures :-

i. Stock turnover Ratio =  $\frac{12,500}{?}$  = 5 times

ii. Stock turnover Ratio =  $\frac{30,000}{10,000}$  = ?

iii. Debtors turnover Ratio =  $\frac{?}{50,000}$  = 4

iv. Debtors Turnover Ratio =  $\frac{1,50,000}{?}$  = 3

v. Creditors turnover Ratio =  $\frac{75,000}{12,500}$  = ?

vi. Creditors turnover Ratio =  $\frac{1,00,000}{?}$  = 4

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### 31.5 WHAT YOU HAVE LEARNT

#### A. Liquidity Ratios :-

- (i) Current Ratio measures the short term solvency of a business.

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

Ideal Current Ratio is 2:1

- (ii) Liquid Ratio

Measures the ability of the firm to pay current Liabilities immediately

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

Liquid Assets = Current Assets – (Stock + Prepaid Expenses)

Ideal Liquid Ratio is 1:1

#### B. Activity or Turnover Ratios

- (i) Stock turnover Ratio measures the efficiency with which the stock is managed.

$$\text{Stock turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Stock}}$$

- (ii) Debtors turnover Ratio is calculated to indicate the efficiency of the company to collect its debt ..

$$\text{Debtors turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivable}}$$

- (iii) Creditors turnover Ratio measures the efficiency with which suppliers are paid.

$$= \frac{\text{Net Credit Purchases}}{\text{Average Accounts Payable}}$$

- (iv) Debt collection period indicates the average time taken by the Debtor to pay.

$$\text{Debt Collection Period} = \frac{12 \text{ months or 52 weeks or 365 days}}{\text{Creditors turnover Ratio}}$$

- (v) Debt Payment Period indicates the average time taken by the firm to settle the Accounts payable.

$$\text{Debt Payment Period} = \frac{12 \text{ months or 52 weeks or 365 days}}{\text{Creditors turnover Ratio}}$$

### 31.6 TERMINAL QUESTIONS

1. Give the meaning and significance of current ratio.
2. What is the objective of calculating Liquidity Ratios ?
3. What is the objective of calculating Activity or Turnover Ratios ?
4. Explain the meaning and significance of
  - a. Debtors Turnover Ratio
  - b. Liquid Ratio
  - c. Stock Turnover Ratio.
5. From the following compute Current Ratio and Quick Ratio.

	(Rs.)
Fixed Assets	1,00,000
Stock	37,200
Debtors	19,200
Cash	39,600
Prepaid Expenses	10,000
Creditors	36,000
Bank Overdraft	17,000
Reserves	10,000

6. Current Liabilities are Rs.80,000. Liquid Ratio is 1.5:1. Current Ratio is 2.5:1. Calculate Quick Assets, Stock in trade and Current Assets.

## 7. Calculate Stock Turnover Ratio :

Opening Stock	Rs. 40,000
Purchases	Rs.1,00,000
Carriage inwards	Rs. 10,000
Carriage outwards	Rs. 5,000
Sales	Rs.2,00,000
Closing Stock	Rs. 20,000

8. Costs of goods sold Rs.1,00,000, Stock Turnover Ratio 4 times, Closing Stock was Rs.10,000 in excess of Opening Stock. Calculate opening stock and closing stock.

9. Net Credit Sales Rs.1,75,000

Debtors at the end Rs.7,000 more than that at the beginning.

Debtors at the beginning Rs. 18,375

Calculate Debtors Turnover Ratio and Average Debt Collection Period.

## 31.7 ANSWERS TO INTEXT QUESTIONS

31.1 A. Cash at Bank, Stock, Short term investments, Bills Receivable, Debtors, Pre-paid expenses, Cash in hand.

B. i) Current Assets            ii) 2:1            iii) 1:1

iv) Stock and Pre-paid Expenses.    v) Current Assets

C. i) Rs.20,000            ii) Rs.1,20,000            iii) 50,000

## 31.2

A. i. Cost of goods sold            ii. Closing Inventory

iii. Delay the Debt            iv. Debtors turnover Ratio

v. Credit            vi. Creditors turnover Ratio

B. i. 2,500            ii. 3            iii. 2,00,000

iv. 50,000            v. 6 times            vi. Rs.25,000