

Unit 9

Financial Statement Analysis

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9.1 Introduction

“Every fact that is learned becomes a key to other facts” – E.Y. Youmans. Based on this, this Unit deals with analysis of financial statements, the functions of which is to identify and highlight

the firm's strengths and weaknesses. The objective of ratio analysis is to provide with the financial information necessary to make financial decisions.

Learning Objectives:

After studying this unit, you should be able to understand the following

1. Understand the concept of ratio analysis and its role in comparative analysis
2. Explain the fundamental relationship between the gross profit ratio, the expenses to sales ratio and the net profit margin ratio.
3. Define and calculate the three primary ratios which explain how well a business is utilizing the resources to generate revenue and profit.

Ratio analysis can provide you with this information in **three** steps:

1. Calculate the firm's ratios for the current or recent period . Ratios are calculated from the firm's income statement or balance sheet It is helpful and sometimes necessary to have the financial statement independently audited.
2. Compare these ratios to those calculated in past records. The purpose of this comparison is to identify tendencies in the firm's ratios. This is known as trend analysis.
3. Compare the ratios to industry averages to show how the company compares to firms of the same size in its industry. This process is known as Cross- sectional analysis.

After completing the analysis, one can have a great deal of information on how the company is doing both over a period of time and compared to other firms in its industry.

Self Assessment Questions 1:

1. Ratios are calculated from _____ Statement and _____.
2. Identifying tendencies in the firm's ratio is known as _____ analysis.
3. Comparing firm's ratio with industry ratios is known as _____ analysis.
4. Ratios enable a company to have _____ data.

9.2 Meaning of Ratio

Absolute numbers tell very little. Assume that two companies A and B, operating within the same industry supply the information:

	Company	
	A	B
NET PROFIT in Rs.	10,000	1,00,000

One can easily say that Company B makes the most profit. But which company is most profitable? The answer for this will naturally call for further additional information relating to profit such as size of the company, the total sales it generates or to how much capital is invested in it. Hence, an assessment or a judgment is made based on making some sort of comparison. Extending the example,

	A	B
Net Profit	10,000	1,00,000
Sales	2,00,000	5,00,000
Net worth (Capital and Reserves)	1,00,000	2,00,000

If net profit is compared with Sales, an assessment can be made on which company generates the most net profit per Re.1 received from customers. Company A : $\text{Net Profit} / \text{sales} * 100$ i.e. 5 percent and Company B it is 20 percent. If the net profit is expressed in terms of investments made by the owners in each company, it is $\text{Net Profit} / \text{Net worth} * 100$. For Company A, it is 10% and for it is 25%. It is also known as Return on Capital Employed. ROCE. Ratios are useful in two ways:

1. To make inter-business comparisons
2. To make comparisons across financial periods

A ratio is simply one number expressed in terms of another. It is a means of highlighting in arithmetical terms the relationship between figures drawn from various financial statements. Therefore, it refers to the numerical or quantitative relationship between two variables or items. A ratio expresses simply in one number the result of comparison between two figures. It is calculated by dividing one figure by the other. The quotient so obtained is the ratio of the figures. Ratio can be expressed in the following three forms:

1. As proportion
2. As percentage
3. As turnover or rate

The Dictionary meaning of Analysis is “separation or breaking up of anything into its elements or component parts”. Ratio Analysis is, therefore, a technique of analysis and interpretation of financial statements. Ratio analysis is the process of establishing and interpreting various ratios for helping in making certain decisions. It involves the methods of calculating and interpreting financial ratios to assess the firm’s performance and status.

Self Assessment Questions 2:

1. a) Ratios are useful to make _____ and _____.
2. Ratio is _____.
3. Ratio refers to _____ relationship.
4. The answer for a division is known as _____.
5. Ratio can be expressed in three ways _____, _____, _____.
6. Ratio analysis is _____.

9.3 Meaning Of Ratio Analysis

The Dictionary meaning of Analysis is “ separation or breaking up of anything into its elements or component parts”. Ratio analysis is therefore a technique of analysis and interpreting various ratios for helping in making certain decisions. It involves the methods of calculating and interpreting financial ratios to assess the firm's performance and status

9.4 Scope

The ratio analysis is one of the most powerful tools of financial analysis. The firm is answerable to the owners, the creditors and employees. The firm can reach a number of parties. On the other hand, parties interested in the business can compute ratios based on the financial statements of the firm. The analysis is not restricted to any one aspect but takes into account all aspects such as earning capacity of the firm, financial obligation, liquidity and solvency aspects, liquidity and profitability concepts.

Self Assessment Questions 3:

1. Ratio analysis is power tool _____.
2. ratios are based on _____.
3. Ratio indicates _____.

9.5 Advantages

The various advantages of ratio analysis are as follows:

a) Financial Forecasting and Planning

Ratio analysis helps in the financial forecasting and planning activities. Ratios based on the past sales are useful in planning the financial position. Based on this, future trends are set.

b) Decision Making

Ratio analysis throws light on the degree of efficiency. It is also concerned with the management and utilization of the assets. Thus, it enables for making strategic decisions.

c) Comparison

With the help of ratio analysis, ideal ratios can be composed. These can be used for comparison in respect of the firm's progress and performance, inter-firm comparison with industry average.

d) Financial Solvency

Ratios are useful tools. It indicates the trends in the financial solvency of the firm. Long term solvency refers to the financial liability of a firm. It can also evaluate the short term liquidity position of the firm. .

e) Communication

The financial strength and weaknesses of a firm are communicated in a more easy and understandable manner by the use of ratios. The information contained in the financial statements is conveyed in a meaningful manner. It, thus, helps in the communication and enhance the value of the financial statements.

f) Efficiency Evaluation

It evaluates the overall efficiency of the business entity. Ratio analysis is an effective instrument which, when properly used, is useful to assess important characteristics of business liquidity, solvency, profitability. A critical study of these aspects may enable conclusions relating to capabilities of business.

g) Control

It helps in making effective control of the business. Actual results can be compared with the established standard and to take corrective action at the right time.

h) Other uses

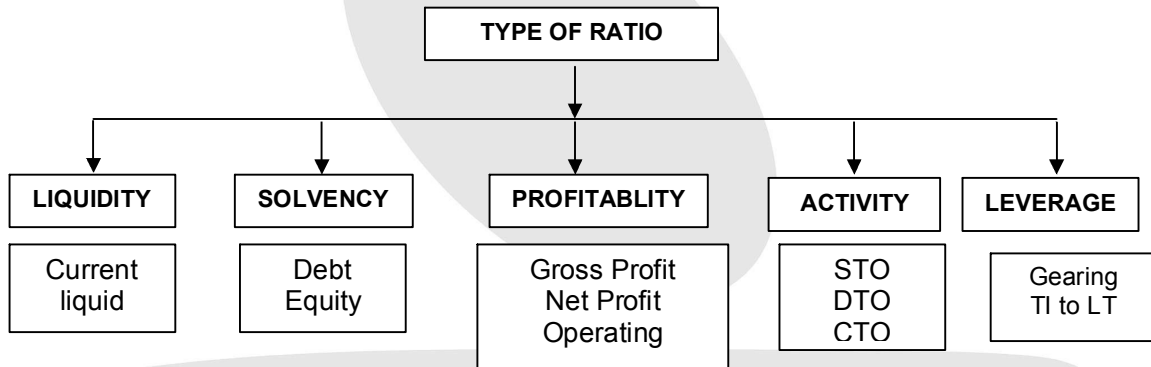
Financial ratios are very helpful in the early and proper diagnosis and financial health of the firm.

Self Assessment Questions 4:

1. There are major _____ advantages.
2. Financial forecasting is useful for _____.
3. Decision making concerned with _____.
4. Comparison is for _____.
5. Financial solvency includes _____.
6. Communication enhances _____ statements.
7. Evaluation done for _____.
8. Through control, _____.

9.6 Classifications Of Ratios

The diagrammatic representation of ratios are as follows :



Self Assessment Questions 5:

1. Types of ratios are _____.
2. Liquidity ratios consist of _____.
3. Solvency ratio consists of _____.
4. Profitability ratio consists of _____.
5. Activity ratio consists of _____.

9.7 Liquidity Ratio

It means the liquidity of the firm. Liquidity is the ability of the firm to meet its current liabilities as they fall due. Since the liquidity is basic to continuous operations of the firm, it is necessary to determine the degree of liquidity of the firm. These are important because liquidity is close to the heart of the firm. A firm may have a high level of long term assets and substantial net income, but if they do not have enough cash on hand or assets that can be turned into cash fairly quickly, they will not be able to operate day to day. The liquidity ratios examine the current portion of the balance sheet : current assets and current liabilities. The implicit assumption is that current assets will be used to pay off current liabilities. This makes sense due to the matching principle (match the maturity of the debt with the duration of the need) e.g. one would not take a five year bank loan to pay off an account payable due in thirty days.

There are two ratios that determine how liquid a firm is : the current ratio and quick ratio.

Self Assessment Questions 6:

1. Liquidity is the ability _____.

2. Liquidity ratios deal with _____.
3. Liquidity ratios place importance on _____.
4. Two ratios that determine liquidity _____.

Current Ratio

It is one of the popular financial ratios. It measures the firm's ability to meet its short term obligations. This is achieved by comparing the current assets of a business with its current liabilities.. The formula for current ratio is :

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

Example:

	A	B
Current Assets	Rs.	Rs.
Stock	3,000	60,000
Debtors	16,000	Nil
Cash	5,000	Nil
Current Liabilities		
Creditors	24,000	Nil
Bank Overdraft	Nil	10,000

The liquidity of the firms are determined by the amount of working capital available to the business. This is defined as current assets minus current liabilities. The current ratio is not expressed as a percentage but as a proportion. The current ratio of the above two firms are: 1 for A and 5 for B. The ratio reveals a considerable difference between the two companies. Company B is five times more liquid than company A. Company A can only just cover its obligations to creditors in the short term, yet Company B can cover its obligation to the bank five times over.

Although company A would be less vulnerable if its ratio was higher, it can be argued that to have a ratio that is too high indicates inefficiency, in that too much working capital is available, which might be better invested in fixed assets. However, it is important to identify the specific types of current assets that are excessive such as

1. Excessive stock levels, indicating poor stock control or a decline in sales volume
2. Excessive debtors, indicating poor credit control and an increasing risk of bad debts
3. Excessive cash or near cash equivalents, indicating a lack of suitable investment opportunities in capital projects.

A rule of thumb is that a ratio of 2 : 1 (Rs.2 in current assets for every Re.1 of current liabilities) is acceptable. However, the current ratio may vary from less than one in such industries as fast foods to more than two in the telephone apparatus manufacturing industry. Consequently, it is important too utilize the industry averages.

A ratio that is much higher than the industry average indicates that the firm may have excessive current assets. Further investigation may demonstrate the cause of the excess. One reason may be that the firm is having trouble in the collection of its debtors or has high inventory, both of which will be identified through the use of other ratios. Another reason may be that the firm is holding too much cash or short term investments which could be earning more money if they were invested in long term instruments. Still another reason for a high ratio is that the firm may be at a specific point in its business cycle. The company that sells woolen goods in winter is expected to have high inventory in November, December, January and high debtors in February.

A ratio which is much lower than the industry average indicates that the firm is having liquidity problems, meaning that it may not be able to meet its short term obligations. Accordingly, an extremely low current ratio should be a red flag to the company being analyzed.

The components of current assets and current liabilities are:

Current Assets: Cash in hand, cash at bank, trade debtors, bills receivable, stock, prepaid expenses, trade investments, marketable securities

Current Liabilities: Trade creditors, bills payable, bank overdraft, outstanding or accrued expenses, tax payable, provision for tax, dividends payable.

Example: Given: Current Ratio is 2.5 and working capital is Rs.1,80,000. Calculate the Current Assets and current liabilities.

Solution: Given data is working capital, hence :

Working capital = Current assets minus current liabilities

Current Ratio = CA / CL

In the absence of any value, the current liability is always taken as 1 unit

$2.5 = CA / 1$ and cross multiplying , CA is 2.5

Working capital ratio is 2.5, then substituting the values,

$2.5 = 2.5$ minus 1 or $WC = 1.5$

For 1.5 WCR = Working capital value is Rs1,80,000

For 2.5 CAR, the current asset is $\text{Rs.}1,80,000 \times 2.5 / 1.5 = \text{Rs.}3,00,000$

For 1 CLR, the current liability is $1,80,000 \times 2.5 / 1 = \text{Rs.}1,20,000$

Self Assessment Questions 7:

1. Current Ratio is _____ ratio.
2. Current ratio measures _____.
3. Current ratio compares _____.
4. The formula for current ratio is _____.
5. Current ratio is expressed in _____.
6. The rule of thumb in Current ratio is _____.
7. Working capital is the result of _____.
8. The working capital is Rs.80,000 and its current ratio is 5. What are the
9. current assets and current liabilities.

Liquid Ratio

It is also known as Quick Ratio or Acid test Ratio. It is similar to current ratio except that it excludes inventory which is generally the least liquid current asset. The reason for eliminating inventory may be due to two primary factors

- a. Many types of inventory cannot be easily sold because they are partially completed items, obsolete items, special purpose items.
- b. The items are typically sold on credit. This results in the creation of trade debtors or bills receivables before being converted into cash.

Citing the example, in the case of company B, the only current asset that it carries is stock. The question must be asked : is this level of stock too high or might it be essential to this type of business ?

As stock is the least liquid of the current assets, prudence requires that liquidity be looked at in another way. If current assets excluding stock are compared with current liabilities, a more cautious assessment of the liquidity of the two companies is given.. This ratio is calculated as follows:

Acid Test Ratio = Current assets less Stock / current liabilities

The quick ratios for companies A and B are as follows :

$$\begin{aligned} \text{A} &= \frac{24,000 - 3,000}{24,000} = 0.875 \\ \text{B} &= \frac{50,000 - 50,000}{10,000} = 0 \end{aligned}$$

This time the quick ratio indicates that company A has a considerably better liquidity from this point of view and company B is dangerously insolvent.

Illustration:

Given that Current ratio is 3.5, acid test ratio is 1.5 and working capital is Rs.6,50,000. Compute current assets, current liabilities, liquid assets

Solution:

Given data, Working capital = Current Assets minus current liabilities

Where current liability is taken as 1

$$CR = CA / CL = 3.5 = CA / CL$$

$$\text{Cross-multiply} = 3.5 \times 1 = \text{Current Assets}$$

Working Capital Ratio is therefore : CAR – CLR or 3.5 minus 1 or 2.5

For 2.5 WCR, the amount is Rs.6,50,000

For 3.5, CAR, the current asset is 6,50,000 x 3.5 / 2.5 or Rs.9,10,000

For 1, CLR, the current liability is 6,50,000 x 1 / 2.5 or Rs.2,60,000

Liquid asset is based on Acid Test Ratio where, 1.5 = LA / CL

Liquid asset, therefore, are = 2,60,000 x 1.5 or Rs.3,90,000

Problem: Given Current ratio 1.5 :1; Quick ratio 1 : 1 and Current liabilities Rs.50,000. Calculate current assets, quick assets and inventory.

Solution: Given Current ratio : 1.5 : 1 and value of current liabilities Rs.50,000

$$\text{Current assets : } CR = CA / 1.5 = CA / 50,000 \text{ or } CA = \text{Rs.75,000}$$

$$\text{Quick Asset : } QR = QA / 1 \text{ or } 1 = QA / 50,000 \text{ or } \text{Rs.50,000}$$

$$\text{Inventory} = CA - QA \text{ or } 75,000 - 50,000 \text{ or } \text{Rs.25,000}$$

Problem: Assuming the Current ratio of DR Ltd is 2, state in **each** of the following cases whether the ratio will improve or decline or will have no change.

- (a) payment of current liability (b) purchase of fixed assets (c) cash collected from customers
(d) Bills receivable dishonored and (e) issue of new shares.

Solution: $CR = CA / CL$ where $2 = CA / 1$ or $CA = 2$ and $CL = 1$

- a) Payment of current liability : Current ratio will improve. The reason is that when current ratio is 2:1, payment of current liability will reduce the same amount in the numerator and denominator. Hence, the ratio will improve.
b) Purchase of fixed assets : here, the current ratio will decline.

- c) Cash collection : Current ratio will not be changed because cash will increase and debtors will decrease
- d) BR dishonored : Current ratio will not change. Reason is that BR will decrease and debtors will increase
- e) Issue of new shares : Current ratio will improve because cash balance will increase.

Self Assessment Questions 8:

1. Liquid Ratio is also known as _____.
2. Liquid ratio excludes _____.
3. The reason for exclusion is _____.
4. The formula to calculate the liquid ratio is _____.
5. Payment to current liability will improve _____.
6. For Bills dishonored, Current ratio _____.
7. For issue of new share, current ratio _____.
8. For purchase of fixed assets _____.
9. For cash collection, _____.
10. Given CR is 1.75. Liquid ratio is 1.25.. Net working capital is Rs.1,50,000. Calculate (a) current assets (b) current liabilities and (c) liquid assets and stock.
11. DR's current ratio is 5.5 : 1 . Quick ratio is 4 to 1. Inventory is Rs.30,000.find out the current liabilities.
12. Given CR is 2.5. Liquid ratio 1.5 working capital Rs.6,00,000, Bank overdraft Rs.10,000. Calculate Current assets, current liabilities. Stock and liquid assets.

9.8 Solvency Ratios

The ratios are analyzed on the basis of long term financial position of a firm. It is also known as test of solvency or analyzing the debt. Many financial analysts are interested in the relative use of debt and equity in the firm. Debt refers to outside borrowings by the firm.

The debt position of a firm indicates the amount of other people's money being used in attempting to generate profits. The long term debts are of much importance to the firm since a firm is expected to commit the payment of periodic interest over the long run. In addition, repayment of loan after the expiry of maturity date has to be planned.

Since the creditor's claims must be satisfied before the distribution of earnings to shareholders, present and prospective shareholders pay close attention to the degree of indebtedness and

ability to repay the debts. Lenders are also equally concerned about the indebtedness and the repayment modes. Hence, the solvency of the firm in particular needs consideration.

Self Assessment Questions 9:

1. Solvency ratio are analyzed on _____ basis.
2. Solvency ratio is also known as _____.
3. Solvency ratio is combination of _____.
4. Debt refers to _____.
5. Lenders are concerned about _____ and _____.

Debt Ratio

Debt ratios are important because debt is widely considered to be a measure of the health of the firm and the risk associated with it. If a firm has high debt, they have fixed payments which must be made. This means that limited funds may be directed to debt payment (either principal or interest or both) instead of investments. .

The debt ratio is :

$$\text{Total Liabilities} / \text{total assets}$$

This ratio tells you how much of the firm's assets are financed with debt. A high debt ratio indicates that the firm may be carrying too much debt. This is of concern to the firm because it may not be able to repay the debt nor to borrow additional funds they are needed. Accordingly, a firm in this situation is considered risky because short term financing is limited and may not be available in an emergency.

A low debt means that the firm has a low level of liabilities compared to its total assets. Such a ratio indicates that the firm is not risky because it has plenty of financing available when compared to its need. However, a low ratio may also indicate that the firm should take on more debt. The reason for this is that the ability to borrow is considered a resource and a firm with low debt may not be taking advantage of this resource.

Self Assessment Questions 10:

1. Debt is considered as _____ Of the firm and _____ Associated _____.
2. The formula is _____.
3. High debt ratio indicates _____.
4. The result of high debt _____.
5. Short term financing is _____.
6. A low debt ratio indicates _____.

Debt : Equity Ratio

The debt : equity ratio is :

Long term Debt / Shareholder's equity

The debt-equity ratio deals with the long term liabilities and equity portion of the balance sheet. Note that shareholders' equity includes retained earning (Equity may also be known as net worth). The debt-equity ratio provides information on the capital structure (relationship between debt and equity) of the firm. Such information is important because it affects the value of the firm. The value of the firm is important because it has an impact on the ability to raise funds., either through increased borrowing or the sale of shares or both.

A high debt-equity ratio indicates a poor capital structure because it signifies that the firm has high debt in comparison to its level of shareholders' equity. This means that the firm's creditors may be concerned about the repayment of debt, which in turn leads to high interest rates, which in turn leads to higher required returns on the firm's potential investments..

A low debt equity ratio is an indication that the firm is in sound financial position and therefore is not considered risky. Normally, the debt equity ratio vary tremendously from industry to industry.

Problem: The Balance Sheet of DR Ltd is as follows :

Assets:	
Fixed Assets	10,00,000
Current Assets	5,00,000
Represented by:	
Current Liabilities	1,00,000
Reserves and surplus	1,00,000
10 % Debentures	2,00,000
6 % Preference Share capital	3,00,000
Equity Share capital	8,00,000

Calculate the Debt Ratio and Debt-equity ratio.

Solution: Debt Ratio : Total Liabilities to outsiders / total assets

: Debentures + Trade creditors / Fixed + current assets

3,00,000 / 15,00,000 or **1 : 5**

Debt – equity ratio :	Outsiders' funds / shareholders' equity
Outsiders' funds	10 % Debentures only + Sundry Creditors
Shareholders' funds	Equity Share capital + Preference share capital + Reserves
	3,00,000 / 12,00,000 or 1 : 4

Self Assessment Questions 11:

1. Debt equity deals with _____.
2. Shareholders equity is _____.
3. The formula is _____.
4. Debt equity provides information on _____.
5. Capital structure refers to _____.
6. Capital structure affects _____.
7. value is important to raise _____.
8. Raising of funds is done through _____.
9. High debt indicates _____.
10. Creditors may get upset over _____.
11. Low debt indicates _____.
12. Low debt is not _____.
13. Debt equity ratio _____ from industry to industry.

9.9 Profitability Ratios

A firm's profitability can be assessed relative to sales, assets, equity or share value. The profitability ratios are important because they indicate whether the firm is doing what it set out to do : make a profit and provide a return to its investors. There are many measures of profitability. Each relates the returns of the firm with regard to the sales, assets, equity or share value. As a group, these measures enable to evaluate the firm's earnings. The criteria for earnings can be related to a given level of sales,. A certain level of assets, the owner's investment or share value. Earnings result in profits. Without profits, a firm may be handicapped to attract outside capital. The income statement of the firm shows the total profits earned by the firm during the preceding fiscal period. The important ratios which highlight the profitability of a firm would be as follows:

Self Assessment Questions 12:

1. Profitability ratio is important as _____.
2. Profitability can be asessed to _____.
3. Profitability ratio evaluates firm's _____.

4. Earnings result in _____.
5. Without profit, _____ Cannot be attracted.

Gross Profit Ratio

It measures the percentage of each sales value remaining after the firm has paid for its goods. The higher the gross profit margin, the better and lower the relative cost of merchandise sold. Thus, it serves an important tool in shaping the pricing policy of the firm. The formula is :

$$\text{Gross Profit Ratio} = \left(\frac{\text{Gross Profit}}{\text{Sales}} \right) \times 100$$

Where Gross profit = Sales minus Cost of goods sold (COGS)

$$\text{Net Sales} = \text{Cash Sales} + \text{Credit Sales} \text{ minus Sales Returns}$$

It is normally expressed as a **percentage**. If we deduct gross profit ratio from 100, the ratio of COGS is obtained..

Problem

DR Ltd provides the following information.

Cash Sales Rs.8,00,000; Credit Sales Rs.10,000; COGS Rs.15,80,000 and Return Inwards Rs.20,000. Calculate Gross Profit Ratio and ratio of COGS.

Solution

GPR: $\frac{\text{GP}}{\text{Net Sales}} \times 100$: Gross Profit : Net Sales minus COGS

Net Sales : Gross Sales minus Return Inwards

Gross Sales : Cash + Credit Sales

8,00,000+10,00,000 minus 20,000 or Rs.17,80,000

Gross Profit : 17,80,000 minus 15,80,000 or Rs.2,00,000

GPR $\frac{2,00,000}{17,80,000} \times 100$ or **11.2 %**

Ratio of COGS : $100 - \text{GP Ratio}$ or $100 - 11.2$ or **88.76 %**

Self Assessment Questions 13:

1. Gross profit measures _____ of each sales value.
2. Gross profit measures _____.
3. The formula is _____.
4. Gross profit is _____.
5. Net sales is _____.
6. Gross Profit ratio is expressed as _____.

Expenses Ratio

These ratios indicate the relationship of various expenses to net sales. Individual expenses are calculated based on the net sales and indicated as a percentage to net sales.

Self Assessment Questions 14:

1. Expense ratio indicate _____ of expenses to net sales.
2. Individual expenses are calculated on _____.

Net Profit Ratio

It is also known as Net Profit Margin. It measures the percentage of each sales in rupee after all expenses including taxes have been deducted. This ratio provides considerable insight into the overall efficiency of the business. A higher ratio speaks about the overall efficiency of the business. It also focuses the attention of the better utilization of total resources. A lower ratio would mean a poor financial planning and low efficiency. A net profit margin of 1 percent or less would be unusual for a grocery store which a net profit margin of 10 percent would be low for a retail stores. It is divided by net income by net sales. The formula is :

$$\text{Net Profit Ratio} = (\text{Net Profit after taxes} / \text{Net Sales}) \times 100$$

The net profits are calculated after excluding the income tax, the non-operating incomes and non-operating expenses. It is expressed as a percentage on net sales..

Example: The income statement of DR Ltd is as follows:

To Opening Stock	2,00,000	By Sales	12,00,000
Purchases	8,00,000	Closing Stock	1,00,000
Direct Expenses	1,00,000		
Gross Profit	2,00,000		
	13,00,000		13,00,000
To Admn Expenses	1,00,000	By Gross Profit	2,00,000
Selling Expenses	80,000	Profit on sale of	
		Investments	60,000
Non-Operating exp	40,000	Dividends received	40,000
Net Profit	80,000		
	3,00,000		3,00,000

Calculate the Gross Profit Ratio, Net Profit Ratio, Operating Ratio, Operating Profit Ratio and Expense Ratio.

Solution

Gross Profit Ratio = $GP / \text{New Sales} \times 100$ or $2,00,000 / 12,00,000 \times 100$ or **16.61 %**

Net Profit ratio = $NP \text{ after tax} / \text{Net Sales} \times 100$ or $80,000 / 12,00,000 \times 100$ or **6.67 %**

Operating Ratio = $COGS + \text{operating expenses} / \text{Net Sales} \times 100$

Sales minus Gross profit = COGS

$10,00,000 + 1,00,000 + 80,000 / 12,00,000 \times 100$ or 98.33 %

Operating Profit = $100 - 98.33$ or **16.67 % Ratio**

Admn Expenses Ratio = $\text{Admn Expenses} / \text{Net sales} \times 100$ or $1,00,000 / 12,00,000 \times 100$ **8.33 %**

Selling Expense Ratio = $\text{Selling Expenses} / \text{Net Sales} \times 100$ or $80,000 / 12,00,000 \times 100$ or **6.67 %**

Self Assessment Questions 15:

1. Net profit is known as _____.
2. Net profit measures percentage of each _____ after _____.
3. Net profit provides _____ of business.
4. Net profit focuses on _____.
5. Low ratio refers to _____.
6. The formula is _____.
7. Calculation is based on _____.

9.10 Activity Ratios

These are used to measure the speed with which various **accounts** are converted into sales or cash. Measures of liquidity are generally inadequate due to the composition of the firm's current assets and current liabilities. The activity ratios are also known as turnover ratios. Some of the turnover ratios are as follows :

Stock Turnover Ratio : **STO**

Debtors Turnover Ratio : **DTO**

Creditors Turnover Ratio : **CTO**

Self Assessment Questions 16:

1. Activity ratios measure _____.
2. Measures of liquidity is inadequate due to _____.
3. STO, DTO, CTO are also known as _____.

Stock Turnover Ratio

It commonly measures the activity or liquidity of the firm's stock.. The STO is also known as stock velocity. Velocity refers to "speed" with which an object travel. Here, it is the speed on converting the stock into sales then to cash. It indicates the number of times the stock has been turned over as cash during a given period of time. It evaluates the efficiency with which a firm is able to manage its stock.

If the cost of goods sold (COGS) is known, the STO can be calculated as follows:

$$\text{STO} = \text{COGS} / \text{Average stock at cost}$$

Where $\text{COGS} = \text{Net Sales} - \text{Gross Profit}$

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

If COGS is not known, it can be computed as follows:

$$\text{STO} = \text{Net Sales} / \text{Stock}$$

Example: DR Ltd provides the following

Stock: Opening Rs.75,000; Closing Rs.1,00,000. Credit Sales Rs.2,00,000. Cash sales Rs. 50,000. Gross Profit 25 %. Calculate the Stock Turnover Ratio

Solution:

$$\text{STO} = \text{COGS} / \text{Average stock}$$

$$\text{COGS} = \text{Net Sales} - \text{Gross Profit}$$

$$\text{Net Sales} = \text{Cash Sales} + \text{Credit Sales} \text{ or } 2,00,000 + 50,000 \text{ or } \mathbf{2,50,000}$$

$$\text{Average stock} = \text{Opening} + \text{closing stock} / 2 \text{ or } 75,000 + 1,00,000 / 2 \text{ or } \mathbf{87,500}$$

$$\text{Gross Profit} = 25 \% \text{ on Rs.}2,50,000 \text{ or } \mathbf{62,500}$$

$$\text{COGS} = 2,50,000 - 62,500 \text{ or } \mathbf{1,87,500}$$

$$\text{STO} = 187,500 / 87,500 \text{ or } \mathbf{2.14 \text{ times.}}$$

Self Assessment Questions 17:

1. STR measures _____.
2. STR is also known as _____.
3. Velocity refers to _____.
4. STR commonly refers to _____.
5. STR evaluates the _____.
6. The formula for STR is _____.
7. COGS is _____.
8. Average Stock is _____.

9. If COGS not given, the formula is _____.

Debtors Turnover Ratio : DTO

It is also known as Debtors velocity. The birth of debtor comes from **credit** sales. Total debtors include the Bills Receivable also. The Bills receivables are written promise of trade debtors. Trade debtors are normally provided with 3 months credit time. After the expiry, they will pay cash. Thus, debtors are expected to be converted into cash within a short period. Therefore, it is included in the current assets. It is calculated as follows :

$$\text{DTO} = (\text{Debtors} + \text{BR} / \text{Net credit sales}) \times \text{Number of working days}$$

DTO indicates the velocity of debt collection of firm. It indicates the number of times average debtors convert themselves over into cash during a year. Debtors care should always be taken on gross value/ Do not deduct the bad debts or provision for doubtful debts. It is expressed as the number of times.

If DTO is given in months, convert it into a common base period. If it is given as a number of times, do not reduce it to a base period.

Example: Total sales of a firm Rs.5,00,000, of which the credit sales are Rs.3,65,000. Sundry Debtors and Bills receivable are Rs.50,000 and Rs.2,000 respectively
Calculate the DTO.

Solution:

$$\text{DTO} = \frac{\text{Debtors} + \text{BR}}{\text{Net credit sales}} \times 365$$

$$= \frac{50,000 + 2,000}{3,65,000} \times 365 \text{ or } \mathbf{52 \text{ days}}$$

Self Assessment Questions 18:

1. DTO is also known as _____.
2. Birth of debtors is from _____.
3. Debtors are based on _____.
4. Debtors include _____.
5. Total debts include _____.
6. Bills receivable is _____.
7. Trade debtors are provided with _____ credit time .
8. Debtors are included in _____.
9. Formula for DTO _____.
10. Net credit sales include _____.
11. DTO involves in _____.
12. Total sales R.1,00,000. Cash sales Rs.20,000. Opening Debtors Rs.10,000,

13. Debtors at close Rs.15,000. BR opening Rs.7,500 and at close Rs.12,500.
14. Calculate DTO.
15. Total annual sales Rs.10,00,000 and BR or Rs.1,60,000. How rapidly must BR
16. be collected if the management wants to reduce the BR to Rs.1,20,000?

Creditors Turnover Ratio : CTO

Creditors come into being out of credit purchases. Creditors include both trade creditors and bills payables. It is included in the current liability since the payment has to be made within three months normally. The formula is as follows :

$$\text{CTO} = (\text{Creditors} + \text{Bills Payable} / \text{Credit purchases}) \times 100$$

Where credit purchases = Total purchases minus cash purchases

Example: Total purchases Rs.1,00,000. Cash purchases Rs.20,000. Discount Provision on creditors Rs.1,000. Purchase returns Rs.2,000. Creditors at close Rs.30,000. Bills payable at close Rs.25,000. Calculate CTO.

Solution: Credit purchases = Total purchase – cash purchase – purchase return

$$1,00,000 - 20,000 - 2,000 \text{ or } \mathbf{Rs.78,000}$$

$$\text{CTO} = 30,000 + 25,000 / 78,000 \times 365 \text{ or } \mathbf{257 \text{ days}}$$

The Reserve for discount on creditors should not be considered for calculating the net credit sales.

Self Assessment Questions 19:

1. The birth of creditors _____ .
2. Creditors include _____ .
3. Creditors are _____ .
4. The formula is _____ .
5. Credit purchases _____ .

9.11 Leverage Ratio

A firm's capital structure is the relation of debt to equity as sources of the firm's assets.. Normally both the owners and the creditors of the business will be interested in analyzing its capital structure. The ratios that deal with the leverage are as follows :

Self Assessment Questions 20:

1. Leverage ratio refers to _____ .
2. It is based on _____ .

Capital Gearing Ratio: :

It denotes the extent of reliance of a company on the fixed cost bearing securities viz. the preference share capital and the debentures as against the equity funds provided by the equity shareholders. The ratio is calculated as:

Capital Gearing Ratio : Fixed cost bearing capital / variable cost bearing capital

Where fixed cost bearing capital = preference share capital, debentures , long term bank borrowings.

Variable cost bearing capital = equity share capital, reserves and surplus.

If fixed cost bearing capital is more than the equity capital, i.e. if the ratio is more than 1, the firm is said to be highly geared. On the reverse, it is low geared.

Example: The capital structure of two companies, Never-do-well and Good-for-nothing Ltd are as follows:

	NDW	GDF
Equity Share Capital (Rs.)	10,00,000	6,00,000
6 % Preference Share Capital	3,00,000	4,00,000
7 % Debentures	-	2,00,000
Reserves and Surplus	2,00,000	2,00,000
Solution:		
Capital Gearing Ratio :	NDW : 3,00,000 / 12,00,000 or 0.25:1	
	GDF : 6,00,000 / 8,00,000 or 0.75 : 1	

The capital of NDW is low geared when compared to GDF.

Self Assessment Questions 21:

1. CGR relies on _____ .
2. Fixed cost securities include _____ .
3. The ratio is _____ .
4. Variable cost bearing capital include _____ .

Debt-equity Ratio:

The ratio compares the debt with equity. Debt refers to long term loans and liabilities.

Redeemable Preference shares are also considered as debt. This measure is helpful to assess the soundness of the long-term financial policies. It determines the relative stake of outsiders and shareholders in the company. Lower the ratio, it is considered more comfortable for the creditors financial position. 2 : 1 is taken as a satisfactory debt – equity ratio. However, it is not a very satisfactory measure, since the nominal values may bear very little relationship to their current market values. The calculation is as follows:

$$\text{Debt – equity Ratio} = \frac{\text{Long term debts}}{\text{Shareholders' funds} + \text{Long term debts}}$$

Self Assessment Questions 22:

1. DER compares _____ with _____ .
2. Debt refers to _____ .
3. Redeemable Preference shares are taken as _____ .
4. DER determines _____ stake.
5. Lower ratio indicates _____ .
6. _____ Rule of thumb.
7. Formula _____ .

Example: The capital structure of DR Ltd is as follows :

Equity Share Capital	: 10,00,000
Redeemable Preference Capital	5,00,000
6 % Debentures	3,00,000
Long term liabilities	2,00,000
Reserves and surplus	2,00,000

Calculate the Capital Gearing Ratio and Ratio of Total Investment to Long-term liabilities

Solution:

CGR : Fixed Cost bearing capital / variable cost bearing capital

$$10,00,000 / 12,00,000 \text{ or } \mathbf{0.83 : 1}$$

TI to LTL : Equity Share capital + Reserves and surplus + Long term
Liabilities / Long term liabilities

$$22,00,000 / 10,00,000 \text{ or } \mathbf{2.2 : 1}$$

9.12 Limitations Of Ratio Analysis

Undoubtedly, ratios are precious tools in the hands of the analyst. But its significance comes from proper use of these ratios. Misuse or mishandling of these ratios and using them without proper context may lead the analyst or management to a wrong direction. The person who uses these ratios should be well versed and should possess expertise knowledge about making proper use of these ratios. Like all tools, ratios also suffer from several 'ifs' and 'buts' and for a thorough understanding of proper use of these ratios. There are certain limiting factors in the case of ratio analysis. These limiting factors are :

1. The user should possess the practical knowledge about the concerns and the industry in general.
2. Ratios are not an end. They are only means to an end.
3. A single ratio in itself is not important. The trend is more significant in the analysis. Comparison of ratios should be made.
4. For comparative purposes, there should be a standard ratio. There is no such standards prescribed for the ratios.
5. The accuracy and correctness of ratios are totally dependent upon the reliability of the data contained in the financial statement on the basis of which ratios are calculated.
6. To use ratios, first of all there should be uniformity in the accounting plan used by both the firms. In addition. There must be consistency in the preparation of financial statement and recording the transactions from year to year within that concern.
7. Ratios become meaningless if detached from the details from which they are derived. The should be used as supplementary and not substitution of the original absolute figures.
8. Time lag in calculation and communicating the same should not be unnecessarily too much.
9. The method of presentation should be precise and without any ambiguity.
10. Price level changes make the ratio analysis meaningless.
11. Inter-firm comparison should never be undertaken iin the case of concerns which are not associated or comparable.
12. All techniques concerning the ratio analysis should be taken into account.

Self Assessment Questions 23:

1. One should possess _____ about the concern.
2. Ratios are not _____ But _____.
3. Ratio should be studied _____.
4. Comparison of ratios is done with the help of _____.
5. _____ Make ratio analysis meaningless.

9.13 Computation of Ratios

Problem 1:

Extracts from financial account of DR Ltd are given below

	Year 2006	Year 2007
Assets		
Stock	10,000	20,000
Debtors	30,000	30,000
Payment in advance	2,000	-
Cash in hand	20,000	15,000
Liabilities		
Sundry creditors	25,000	30,000
Bills payable	15,000	12,000
Bank Overdraft	-	5,000

Sales amounted to Rs.3,50,000 2006 and Rs.3,00,000 in 2007. Compute the solvency position of DR.

Solution: Short-term solvency analysis

Current Ratio : CA / CL or Year 2006 : 62,000 / 40,000 or 1.55 : 1
 2007 : 65,000 / 47,000 or 1.38 : 1

Liquid Ratio : LA / Liquid liabilities

For 2006 : 52,000 / 40,000 or 1.30 : 1
 2007 : 45,000 / 42,000 or 1.07 : 1

Bank overdraft is not included in liquid liabilities as it tends to become some sort of a permanent mode of financing.

Inventory turnover ratio : Net sales / average inventory

For 2006 : 3,50,000 / 10,000 or 35 : 1
 2007 : 3,00,000 / 15,000 or 20 : 1

The liquid position is not sound. The current ratio in the year 2006 does not appear to be good enough as it is below the rule of thumb i.e. 2 : 1. In the year 20-07, the position has further deteriorated to 1.38: 1. The later ratio shows a definite weakening in the solvency position of the company. As regards the acid test ratio, it is satisfactory in the year 2006 and not alarming in the year 2007. However, the fall in the cash balance and appearance of bank overdraft in the year

shows a definite deterioration in the financial position. Moreover, because of factors concerning sales, stock and debtors, the quick ratio is likely to soon deteriorate.

As regards inventory turnover ratio, it indicates an alarming deterioration in the year 2007. The disproportionate rise in the percentage of stock to total current assets from 16% in the year 2006 to 31 % in the year 2007 is also a matter of concern. This shows over purchase of materials which needs through investigation.

A comparison of debtors turnover ratios of the two years indicates worsening of the company's liquid position. There will be much cause of worry if the sales is only to a few customers.

LONG TERM RATIOS

Debt to equity ratio : External equities / Internal equities

For 2006 : 40,000 / 22,000 or 1.82 : 1

2007 : 47,000 / 18,000 or 2.61 : 1

Proprietary Ratio : Shareholders' Equities / Total Equities

For 2006 : 22,000 / 62,000 or 0.35 : 1

2007 : 18,000 / 65,000 or 0.28 : 1

From the long term point of view, the financial position of DR is very unsatisfactory as the debt to equity ratio and proprietary ratio are far off the norm in both years. The situation has worsened in the year 2007 resulting in a serious decline in the shareholders' equity. The company seems to be heavily banking upon the creditors' funds.

The overall conclusion of the above analysis is that the solvency position of DR is not satisfactory and needs careful planning.

Problem 1

A manufacturer of stoves sells to retailers on terms 2.5 % discount in 30 days, 60 days net. The debtors and receivables at the end of December of past three years and net sales for all these three years are as under.

	Year		
	2005	2006	2007
Debtors	54,842	33,932	85,582
Bills Receivable	4,212	3,686	9,242
Net Sales	2,68,466	3,47,392	4,43,126

Determine the average collection period for each of these three years and comment.

Solution: Collection period : Trade receivables / Net credit sales x Number of working days

Year 2005	:	$59,054 / 2,68,466 \times 365$	=	80 days
2006		$37,618 / 3,37,392 \times 365$	=	41 days
2007		$94,824 / 4,43,126 \times 365$	=	78 days

The average collection period in all the three years has been within standard period 80 days, i.e. $60 + \frac{1}{3}$ of 60 days . Hence, it is good.

Problem 2: DR purchases goods both on cash and credit terms. The following particulars are obtained from the books:

Total purchases Rs.2,00,000. Cash purchases Rs.20,000. Purchase returns Rs.34,000. Creditors at the end Rs.70,000. Bills payable at the end Rs.40,000. Reserve for discount on creditors Rs.5,000. Calculate average payment period.

Solution:

Calculation of net credit purchases : Total purchases minus cash purchases minus purchase returns or Rs.3,00,000 – 20,000 – 34,000 or Rs.1,46,000.

Average payment period : $\frac{\text{Creditors} + \text{Bills payable}}{\text{Net credit purchases}} \times 365 \text{ days}$
 $\frac{70,000 + 40,000}{1,46,000} \times 365 \text{ days}$ or **275 days**.

Problem 3 : From the following Balance sheet , compute the Balance Sheet ratios

Assets: Plant and Machinery Rs.2,00,000. Land and Building Rs.2,00,000. Stock Rs.1,50,000. Debtors Rs.50,000 and Cash balances Rs.1,00,000 = Rs.7,00,000

Liabilities: Equity Share capital Rs.2,00,000. 6 % Preference Share capital Rs.1,00,000. 8 % Debentures Rs.1,00,000. Reserves and surplus Rs.1,00,000. Long term loan Rs.50,000. Creditors Rs.1,00,000. Bank overdraft Rs.50,000 = Rs.7,00,000.

Solution:

Current Ratio: CA / CL or $3,00,000 / 1,50,000$ or **2 : 1**

Liquid Ratio: LA / CL or $1,50,000 / 150,000$ or **1 : 1**

Absolute Liquid Ratio: Absolute liquid assets / current liabilities or $1,00,000 / 1,50,000$

Or **1 ; 0.67**

Proprietary Ratio: Proprietors' equity /current liabilities or $4,00,000 / 7,00,000$ or **0.57 : 1**

Assets Proprietary Ratio: Fixed assets / Proprietors' equity or $4,00,000 / 4,00,000$ or **1:1**

Current assets to proprietors' equity: Current assets/ Proprietors' equity or $4,00,000 / 4,00,000$ or **1 : 1**

Debt Equity Ratio: Total debts / Proprietors' equity or $3,00,000 / 4,00,000$ or **0.75 : 1**

Stock to Current asset Ratio: Stock / Current assets or $1,50,000 / 3,00,000$ or **0.50:1**

Stock to working capital ratio: Stock/working capital or 1,50,000 / 1,50,000 or **1:1**

Current assets to working capital ratio: CA / WC or 3,00,000 / 1,50,000 or **2:1**

Current assets to Liquid assets ratio: CA / LA or 3,00,000 / 1,50,000 or **2:1**

Long term funds to working capital ratio: All long term funds / working capital or 2,50,000 / 1,50,000 or **1.67 : 1**

Tangible assets to working capital ratio: Tangible assets / current liabilities or 4,00,000 / 1,50,000 or **2.67 : 1**

Tangible assets to current liabilities ratio: Tangible assets / current liabilities or 4,00,000 / 1,50,000 or **2.67 : 1**

Capital Gearing Ratio: Equity share capital / Preference shares + Debentures or 2,00,000 / 2,00,000 or **1:1**

Problem 4: A factory engaged in an industry which is capital intensive has been in operation for ten years. The capital employed is Rs.17,00,000, out of which Rs.10,00,000 represent equity capital and reserves, Rs.5,00,000, long term borrowings on Debentures and Rs.2,00,000 cash credit from banks. The working capital of the company is Rs.8,50,000 made up of stocks Rs.3,00,000, Stores Rs.1,40,000, Debtors Rs.3,50,000, Advances and deposits Rs.60,000. Annual Sales Rs.8,00,000. Calculate current ratio, liquidity ratio, debt equity ratio, proprietary ratio, Fixed assets to proprietors' funds, Fixed asset ratio.

Solution: Current Ratio : 8,50,000 / 2,00,000 or **4.25 : 1**

Liquidity Ratio = 4,10,000 / 2,00,000 or **2.05 : 1**

Debt equity ratio : 7,00,000 / 10,00,000 or **0.7 : 1**

Proprietary ratio : 10,00,000 / 17,00,000 or **0.59 : 1**

FA to Proprietors' fund or 8,50,000 / 10,00,000 or **0.85 : 1**

Fixed assets ratio or 8,50,000 / 15,00,000 or **0.57 : 1**

Problem 5: The ratios relating to DR Ltd are given below

Gross profit ratio 15 %. Stock velocity : 6 months. Debtors velocity 3 months. Creditors velocity 3 months. The gross profit for the year amounts Rs.60,000. Closing stock is equal to opening stock. Find sales, closing stock, sundry debtors and sundry creditors.

Solution:

Gross Profit Ratio = Gross Profit / sales and 100 or 15 % = 60,000 / sales x 100 or Sales is Rs. **4,00,000.**

Closing stock = Basis stock velocity or Cost of goods sold / average stock where

COGS = Sales – Gross profit or Rs.4,00,000 – Rs.60,000 or **Rs.3,40,000**

6 months = 3,40,000 / Average stock of Average stock is **Rs.6,80,000**.

Since opening and closing stocks are the same, the closing stock is **Rs.6,80,000**

Sundry Debtors : Basis Debtors velocity = Total debtors / sales x Number of months

Total Debtors is 4,00,000 x 3 /12 or **Rs.1,00,000**

Sundry Creditors : Total creditors / purchases x Number of months

Where Purchases = Opening stock + purchases - closing stock or **Rs.3,40,000**

Creditors = 3,40,000 x 3/12 or **Rs.85,000**

Problem 6: Prepare a Balance sheet from the following

Current Ratio 1.4. Liquid Ratio 1. Stock turnover Ratio 8. GP Ratio 20 %. Debt collection period 1.5 months. Reserves and surplus to capital 0.6. Turnover to fixed assets 1.6. Capital Gearing Ratio 0.5. Fixed assets to net worth 1.25. Sales Rs.10,00,000.

Solution: Calculation of cost of Sales : Sales – Gross profit 10,00,000 minus 2,00,000 (20 % of 10,00,000) **Rs. 8,00,000**.

Closing Stock: Cost of sales / Stock Turn over Ratio or 8,00,000 / 8 or **Rs.1,00,000**

Fixed Assets: Cost Sales / FA turnover or 8,00,000 / 1.6 or **Rs.5,00,000**

Debtors: Total sales x Debt collection period of 10,00,000 x 1.5 / 12 or **Rs.1,25,000**

Current assets based on liquid ratio: Current Ratio is 1.4. Therefore Stock is Current Ratio minus Liquid Ratio of 1.4 minus 1.0 or 0.4 or Value of stock x current ratio / stock ratio or 1,00,000 x 1.4 / 1 or **Rs.3,50,000**

Liquid assets = Current assets minus stock or 2,50,000 minus 1,25,000 or **Rs.1,25,000**

Cash balances : Liquid assets minus Debtors or 2,50,000 minus 1,25,000 or **Rs.1,25,000**

Current Liabilities : Current Ratio is 1.4

Therefore, current liabilities is Current assets / current ratio or 3,50,000 / 1.4 or **Rs.2,50,000**

Net Worth : Fixed Assets / FA to net worth or 5,00,000 / 1.25 or **Rs.4,00,000**

Reserves and Surplus : Ratio 0.6

Let the Capital be 1

Add: Reserves and surplus which is 0.6, hence it is 1.6

Reserves and surplus will be : Shareholders funds x Reserves / Total ratio or $4,000 \times 0.6 / 1.6$ or **Rs. 1,50,000**

Share Capital : Shareholders funds minus Reserves or $4,00,000$ minus $1,50,000$ or **Rs.2,50,000**

Long term Liabilities : Capital Gearing ratio is 0.5

Share capital x Gearing ratio or $4,00,000 \times 0.5$ or **Rs.2,00,000**

BALANCE SHEET

Liabilities			Assets
Share capital	2,50,000	Fixed Assets	5,00,000
Reserves and Surplus	1,50,000	Stock	1,00,000
Long term Liabilities	2,00,000	Debtors	1,20,000
Current Liabilities	2,50,000	Cash balances	1,25,000
	8,50,000		8,50,000

Terminal Questions:

Problem 1:

Calculate Current ratio, acid test ratio.: Cash in hand Rs.3,000. Cash at Bank Rs.65,000. Bills receivable Rs.10,000. Stock Rs.1,20,000, Debtors Rs.80,000. Prepaid expenses Rs.2,000. Creditors Rs.1,20,000. Bills payable Rs.20,000.

Problem 2:

Calculate : Debts to equity Ratio and Proprietary ratio : Equity share capital Rs.5,00,000. Preference share capital Rs.3,00,000. Reserves Rs.2,00,000. Current liabilities Rs.1,00,000. 8 % Debentures Rs.3,00,000. Fixed assets Rs.10,00,000. Current assets Rs.4,00,000

Problem 3:

The current assets and current liabilities were Rs.16,00,000 and Rs.8,00,000 respectively. What is the effect of **each** of the following transactions individually and totally on the current ratio :

1. Purchase of new machinery for Rs.5,00,000
2. Purchase of new machinery for Rs.10,00,000 on a medium term loan from a bank with 20 % margin.
3. Payment of a dividend of Rs.2,00,000 of which Rs.0.47 lakh was tax deducted at source.
4. Materials purchased costing Rs.5,00,000 in respect of which bank financed Rs.3,00,000.

Problem 4:

The current ratio is 2 : 1. Which of the following suggestions would improve the ratio, which would reduce it and which would not change it.

- a) to pay a current liability
- b) to sell a motor car for cash at a slight loss
- c) to borrow money for short time on an interest bearing ;promissory note
- d) to purchase stock for cash
- e) to give an interest bearing promissory note to a creditor to whom money was to be paid.

Answer for Self Assessment Questions**Self Assessment Questions 1:**

- 1. Income and balance sheet
- 2. Trend
- 3. Cross sectional
- 4. Comparative

Self Assessment Questions 2:

- 1. Inter-business comparison and across financial period
- 2. One number expressed in terms of another
- 3. Numerical or quantitative
- 4. Quotient
- 5. Proportion, percentage and turnover
- 6. Process of establishing and interpreting ratios for decision making

Self Assessment Questions 3:

- 1. Financial analysis
- 2. Financial statements
- 3. Liquidity, solvency and profitability aspects

Self Assessment Questions 4:

- 1. Eight
- 2. For forecasting and planning activities
- 3. Management and utilization of asset
- 4. Firm's progress and performance
- 5. Short term and long term liquidity position
- 6. Value of the financial statements
- 7. Overall efficiency of the business entity

8. Actual results can be compared with established standards

Self Assessment Questions 5:

1. Current and liquid
2. Debt and equity
3. GP, NP, and operating
4. STO, DTO and CTO
5. Gearing.

Self Assessment Questions 6:

1. To meet current liability
2. Current assets and current liabilities
3. Matching principle
4. Current ratio and quick ratio.

Self Assessment Questions 7:

1. Financial
2. Short term obligations
3. Current and current liabilities
4. Current assets : current liabilities or current assets / current liabilities
5. Proportion
6. 2 : 1
7. Current assets minus current liabilities.
8. CA 1,00,000 and CL 20,000

Self Assessment Questions 8:

1. Quick, acid test
2. Stock
3. Stock cannot be sold easily and stock typically sold on credit
4. Current stock minus stock / current liabilities
5. Will not change
6. Will improve
7. CR will decline
8. CR will not change.
9. 3,50,000; 2,00,000, 2,50,000 and Rs.1,00,000.
10. Rs.20,000
11. CA Rs.1,00,000, CL Rs.40,000, Stock Rs.40,000 and LA Rs.60,000.

Self Assessment Questions 9:

1. Long term financial position
2. Test of solvency
3. Debt and equity
4. Outside borrowings
5. Indebtedness and repayment

Self Assessment Questions 10:

1. Health and risk
2. Total liabilities / total assets.
3. Too much of debt
4. Inability to repay debt
5. Limited
6. Non risky situations.

Self Assessment Questions 11:

1. Long term liabilities and equity portion in Balance sheet
2. Equity share capital + Reserves and surplus
3. Long term debt / shareholders' equity
4. Capital structure
5. Relationship between debt and equity
6. Value of the firm
7. Funds
8. Increased borrowings or sale of shares or both
9. Poor capital structure.
10. Repayment of debt
11. Sound financial position
12. Risky
13. Vary

Self Assessment Questions 12:

1. Tells the status
2. Sales, assets, equity or share value
3. Earnings
4. Profits
5. Capital.

Self Assessment Questions 13:

1. Percentage
2. Pricing policy
3. $\text{Gross profit} / \text{sales} \times 100$
4. Sales minus Cost of goods sold
5. Cash + credit sales minus returns
6. Percentage.

Self Assessment Questions 14:

1. Relationship
2. Net sales

Self Assessment Questions 15:

1. NP margin
2. Sales in rupee, expenses and taxes
3. Overall efficiency
4. Overall efficiency
5. Poor financing planning and low efficiencies
6. $f) \text{ Net profit after taxes} / \text{net sales} \times 100$
7. Income statement

Self Assessment Questions 16:

1. Speed
2. Composition of Current assets and current liabilities
3. Turnover.

Self Assessment Questions 17:

1. Firm's stock
2. Inventory turnover, stock velocity
3. Speed of converting stock into sales to cash
4. Number of times turnover
5. Efficiency to manage stock
6. $\text{Cost of Goods Sold (COGS)} / \text{Average stock}$
7. Net sales minus gross profit.
8. $\text{Opening} + \text{Closing stock} / 2$
9. Net sales / Stock

Self Assessment Questions 18:

1. Debtors velocity
2. credit sales
3. Gross value
4. Bad debts and reserve e for doubtful debts
5. Trade debtors and Bill receivable
6. Written
7. Three months
8. Current assets
9. Debtors + Bills receivable / net credit sales x number of working days.
10. Sales minus return inwards
11. Velocity of debt collection
12. DTO 3.56
13. Collection period 43 days.

Self Assessment Questions 19:

1. Credit purchases
2. Trade creditors + bills payable
3. Current liabilities
4. Creditors + BP / credit purchases x Number of days.
5. Credit purchases minus return outwards.

Self Assessment Questions 20:

1. Relation of debt and equity
2. Capital structure.

Self Assessment Questions 21:

1. Fixed cost bearing securities.
2. Preference share capital + debentures.
3. Fixed cost bearing securities / variable cost bearing capital .
4. Equity share capital + reserves and surplus.

Self Assessment Questions 22:

1. debt, equity
2. Long term loans and liabilities
3. Long term debt
4. relative

5. comfort zone
6. 2 : 1
7. Long term debts / Shareholders' funds + long term debt

Self Assessment Questions 23:

1. Comprehensive and practical knowledge
2. Ends but means
3. In totality
4. Standards
5. Price level changes

Answer for Terminal Questions:

1. Refer to units 9.7
2. Refer to units 9.8 & 9.13
3. (1) Decrease (2) decrease (3) decrease (4) increase
4. (a) increase (b) increase (c) decrease (d) no change (e) no change

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