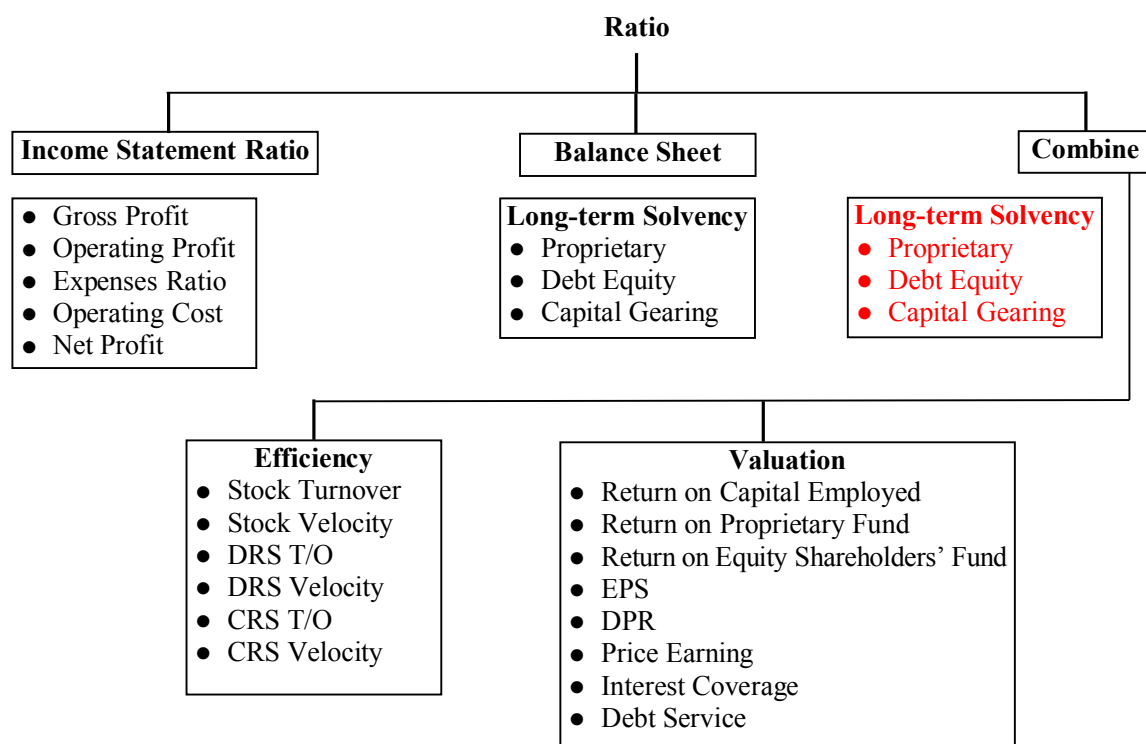


# Chapter 3

## Ratio Analysis

### Ratio Analysis

Ratios are well-known and most widely used tools of financial analysis. A ratio gives the mathematical relationship between one variable and another. Though the computation of a ratio involves only a simple arithmetic operation, its interpretation is a difficult exercise. The analysis of a ratio can disclose relationships as well as bases of comparison that reveal conditions and trends that cannot be detected by going through the individual components of the ratio. The usefulness of ratios is ultimately dependent on their intelligent and skillful interpretation.



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

Particulars	Company A	Company B
Net Profit	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 judgement is made based on making some sort of comparison. Extending the example:

Particulars	Company A	Company B
Net Profit	10,000	1,00,000
Sales	2,00,000	5,00,000
Net Worth (Capital Reserve)	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 ₹ 1 received from customers.

#### Return on Capital Employed:

Particulars	Company A	Company B
Net Profit/Sales × 100	5%	20%
Net Profit/Net Worth × 100	10%	25%

Ratio can be expressed in the following three forms:

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

Simple or pure ratio is merely a quotient arrived by simple division of one number by another. When the current assets of a business firm are ₹ 60,000 and current liabilities is ₹ 15,000.

- The ratio is derived by dividing ₹ 60,000 by ₹ 15,000. It will be expressed as 4 : 1.
- Ratios are expressed as percentage relations when the simple or pure ratios are multiplied by 100 ( $4 \times 100 = 400\%$ ).
- Ratios are expressed as rates which refer to ratios over a period of time. Example: Stock has turned over 6 times a year.

Ratio 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. The ratio analysis is one of the most powerful tools of financial analysis. 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.

Ratios are used by different people for various purposes. As ratio analysis mainly helps in valuing the firm in quantitative terms, two groups of people are interested in the valuation of the firm and they are creditors and shareholders. Creditors are again divided into short-term creditors and long-term creditors.

Short-term creditors hold obligations that will soon mature and they are concerned with the firm’s ability to pay its bills promptly. In the short run, the amount of liquid assets determines the ability to clear off current liabilities. These persons are interested in liquidity. Long-term creditors hold bonds or

mortgages against the firm and are interested in current payments of interest and eventual repayment of principal. The firm must be sufficiently liquid in the short-term and have adequate profits for the long-term. These persons examine liquidity and profitability.

In addition to liquidity and profitability, the owners of the firm (shareholders) are concerned about the policies of the firm that affect the market price of the firm's stock. Without liquidity, the firm cannot pay cash dividends. Without profits, the firm would not be able to declare dividends. With poor policies, the common stock would trade at low prices in the market.

Considering the above category of users financial ratios fall into three groups:

- Liquidity ratios
- Profitability or efficiency ratios
- Ownership ratios
  - Earnings ratios
  - Dividend ratios
  - Leverage ratios
  - Capital structure ratios
  - Coverage ratios

### Steps in Ratio Analysis

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.

**Illustration 1:** The following financial statements of KR Ltd. will be used for computing the different ratios:

#### Income Statement for the year ending 31-03-2011

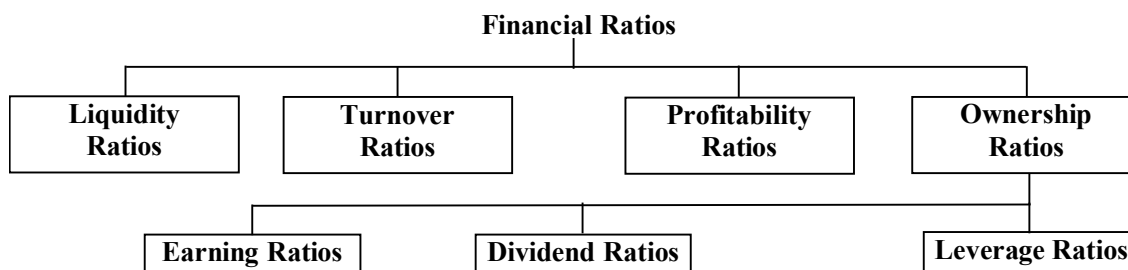
Particulars	₹	₹
Net Sales		
Credit:	7,20,000	12,00,000
Cash:	4,80,000	
Less: Cost of Goods Sold		
Opening Stock	2,00,000	
Add: Purchases	6,00,000	
Less: Closing Stock	2,40,000	
Wages	1,60,000	7,20,000
Gross Profit		4,80,000
Operating Expenses		
Office and Administration Expenses	1,72,000	
Selling and Distribution Expenses	1,50,000	3,12,000
Operating Profit		1,68,000
Interest		8,000
Profit before Tax		1,60,000

Tax		80,000
Profit after Tax		80,000

**Balance Sheet of KR Ltd. as on 31-3-2011**

Current Liabilities	L/Y	C/Y	Current Assets	L/Y	C/Y
Accounts Payable	1,00,000	1,20,000	Cash	1,20,000	1,60,000
Wages and Taxes Outstanding	60,000	40,000	Accounts receivable	1,20,000	1,20,000
Income Tax Payable	40,000	80,000	Inventories	2,00,000	2,40,000
Long-term Liabilities:			Prepaid Expenses	40,000	40,000
4% Mortgage Debentures	1,60,000	1,60,000	Fixed Assets:		
			Land	1,20,000	1,20,000
Share Capital (12,000 shares of ₹ 20 each fully paid)	2,40,000	2,40,000	Building and structures	4,80,000	4,80,000
Retained Earnings	2,40,000	2,80,000	Less: Accumulated Depreciation on Building and Structures	2,80,000	2,80,000
			Net Buildings and Structures	2,00,000	2,00,000
			Other Assets:		
			Goodwill and Patents	40,000	40,000
<b>Total</b>	<b>8,40,000</b>	<b>8,40,000</b>	<b>Total</b>	<b>8,40,000</b>	<b>8,40,000</b>

**Financial Ratios**



Financial ratios can be broadly classified into four categories:

- Liquidity ratios
- Turnover ratios
- Profitability ratios
- Ownership ratios.

**(a) Liquidity Ratios:** It is the ability of a firm to satisfy its short-term obligations as they become due for payment. The liquidity is a prerequisite for the very survival of a firm. It reflects the short-term financial strength or solvency of the firm. The ratios which indicate the liquidity of the firm are:

- Net Working Capital
- Current Ratio
- Acid Test/Quick Ratio
- Super Quick Ratio
- Cash Flow from Operations Ratio

**1. Net Working Capital:** It represents the excess of current assets over current liabilities.

Net Working Capital = Current Assets – Current Liabilities

Although NWC is really not a ratio, it is frequently employed as a measure of a company's liquidity position. The greater is the amount of NWC, the greater is the liquidity of the firm. Inadequate working capital is the first sign of financial problems for a firm.

**2. Current Ratio:** Current ratio measures the short-term solvency of the firm. It is computed as:

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

$$\text{For KR Ltd., Current Ratio} = \frac{5,60,000}{2,40,000} = 2.33$$

Here, current assets include cash and assets like marketable securities, sundry debtors, inventories, etc. that can be converted into cash within one year. Current liabilities include obligations like sundry creditors, bills payable, accrued expenses, short-term bank loan etc., that have to be repaid within a year.

- The current assets of a firm include cash and bank balances, marketable securities, inventory of raw materials, semi-finished and finished goods, debtors, net of provision for bad and doubtful debts, bills receivable and prepaid expenses.
- The current liabilities include trade creditors, bills payable, bank credit, provision for taxation dividends payable and outstanding expenses.
- As a measure of short-term financial liquidity, it indicates the rupees of current assets available for each rupee of current liability payable.
- Higher ratio, i.e., more than 2 : 1 indicates sound solvency position but at the same time it may be indicative of slack management policies and practices as it might signal excessive inventories or poor credit management.
- Lower ratio, i.e., less than 2 : 1 indicates inadequate working capital. In capital rich countries, where long-term funds from capital market are available in abundance firms dependence on current liabilities may be less. For public utility companies such as BSNL, MTNL, etc., current ratio is usually very low as they required fewer current assets.

**3. Quick Ratio:** Quick ratio is also known as liquid ratio or acid test ratio. One defect of the current ratio is that it fails to convey any information on the composition of the current assets of the firm. A rupee of cash is considered equivalent to a rupee of inventory or receivable which may not be so. The acid test ratio is a measure of liquidity designed to overcome this defect by measuring those current assets that can be quickly converted into cash to meet the short-term obligations of current liabilities. In a way, it excludes inventory that are not easily and readily converted into cash.

While computing current ratio, inventory is included as a part of current assets. But inventory normally requires some time for being converted into cash, because of which the true picture of liquidity is not given by current ratio. Quick ratio provides a better measure of liquidity unlike current ratio; it does not take inventories into account. It is computed as:

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

$$\text{For KR Ltd., Quick Ratio} = \frac{3,20,000}{2,40,000} = 1.33.$$

- Acid test ratio of 1 : 1 is considered satisfactory. This ratio is a more rigorous and penetrating test of the liquidity position of a firm.
- Higher ratio, i.e., more than 1 : 1 indicates sound financial position.

- Lower ratio, i.e., less than 1 : 1 indicates financial difficulty.

**4. Super Quick/Cash Ratio:** This ratio is calculated by dividing the super quick assets by the current liabilities of a firm. The super quick current assets are cash and marketable securities. This ratio is the most rigorous and conservative test of a firm's liquidity position.

$$\text{Super Quick Ratio} = \frac{\text{Cash and Marketable Securities}}{\text{Current Liabilities}}$$

**5. Cash Flow from Operations Ratio:** This ratio measures liquidity of a firm by comparing actual cash flows from operations (in lieu of current and potential cash inflows from current assets) with current liability.

$$\text{Cash Flow from Operations Ratio} = \frac{\text{Operations from Cash Flow}}{\text{Current Liabilities}}$$

**6. Bank Finance to Working Capital Gap:** Working capital gap is the difference between current assets and current liabilities (other than short-term borrowings). The bank finance to working capital gap ratio indicates the extent to which the firm relies on short-term bank finance for financing its working capital. It is computed as:

$$\text{Bank Finance to Working Capital Gap} = \frac{\text{Short - term Bank Finance}}{\text{Working Capital Gap}}$$

**(a) Activity Ratios or Efficiency Ratios:** They are concerned with measuring the efficiency in asset management. The efficiency with which the assets are used would be reflected in the speed and rapidity with which assets are converted into sales.

**(b) Turnover Ratio:** This ratio examines how quickly inventory is converted into cash. This ratio helps the financial manager to evaluate in inventory policy. The ratio reveals the number of times finished stock is turned over during a given accounting period. The three relevant turnover ratios are: (i) Inventory turnover ratio, (ii) Debtors turnover ratio, and (iii) Creditors turnover ratio.

They are also referred to as activity ratios and they indicate the efficiency of the firm in dealing with the current assets. They indicate the pace at which the assets are turned into sales.

**1. Average Receivables (Debtors) Turnover Ratio:** Accounts receivables indicate the credit sales of the company. The debtors turnover ratio or the receivables turnover ratio gives the number of times receivables are generated and collected during the year. It is computed as:

$$\text{Average Receivables (Debtors) Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Accounts Receivables}}$$

$$\text{For KR Ltd., Average Receivables Turnover Ratio} = \frac{7,20,000}{(2,00,000 + 2,40,000)/2} = 10$$

- Net Credit Sales consist of gross credit sales minus returns from customers. It also includes bills receivables.
- A high ratio is indicative of shorter time lag between credit sales and cash collection.
- A low ratio indicates that debts are not being collected rapidly.

Debt collection period is calculated by any of the following ratios:

The speed at which accounts receivables are collected can be computed using the receivables turnover ratio in the following manner:

$$\text{Average Collection Period} = \frac{360}{\text{Average Accounts Receivable}} = \frac{360}{10} = 36 \text{ days}$$

The average collection period helps in measuring the creditworthiness of the debtors as it indicates the time by which the debtors pay back their obligation arising on account of credit sales.

The higher the turnover ratio and the shorter the average collection period, indicates better trade credit management and the better the liquidity of debtors.

**2. Inventory Turnover Ratio:** It indicates the efficiency of the firm in producing and selling its product. It is computed as:

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventory}}$$

where, the average inventory is arrived at by taking the average of opening and closing inventory balances.

$$\text{For KR Ltd., Inventory Turnover Ratio} = \frac{7,20,000}{(2,00,000 + 2,40,000)/2} = 3.27$$

To judge whether the ratio of a firm is satisfactory or not, it should be compared over a time on the basis of trend analysis.

**Inventory Holding Period** = 12 months/Inventory Turnover Ratio

For KR Ltd., Inventory Holding Period =  $12/3.27 = 3.67$  times

**3. Creditors Turnover Ratio:** It is the ratio between net credit purchase and the average amount of creditors outstanding during the year.

**Creditors Turnover Ratio** = Net Credit Purchase/Average Creditors

**For KR Ltd., Creditor turnover ratio =**

**Creditors Collection Period** = 12 months/Creditors Turnover Ratio

A higher ratio shows that the creditors are not paid in time.

A lower ratio shows that the business is not taking the full advantage of credit period allowed by the creditors.

**4. Assets Turnover Ratio:** It indicates the efficiency with which firm uses all its assets to generate sales. It is based on the relationship between cost of goods sold and assets of a firm.

This ratio indicates the firm's ability in generating sales from all financial resources committed to total assets. It is computed as:

$$\text{Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Average Assets}}$$

$$\text{For KR Ltd., Asset Turnover Ratio} = \frac{12,00,000}{(8,40,000 + 9,20,000)/2} = 1.36$$

**Total Assets Turnover** = Cost of goods sold/Average total assets

**Fixed Asset Turnover** = Cost of goods sold/Average fixed assets

The total assets and fixed assets are net of depreciation and the assets are exclusive of fictitious assets. Higher the ratio, greater is the intensive utilization of fixed assets. Lower ratio means under utilization of total and fixed assets.

**5. Capital Turnover Ratio:** Cost of goods sold/Average capital employed lower ratio shows lower profit and higher ratio shows higher profit.

**Illustration 2:** Birla Cements Ltd. provides the following:

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

**Solution:**

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

$$\text{Gross Profit} = 25\% \text{ of } 2,50,000 \text{ (Net Sales)} = 62,500$$

$$\text{COGS} = \text{Net Sales} - \text{Gross Profit} = 2,50,000 - 62,500 = 1,87,500$$

$$\begin{aligned} \text{Average Inventory} &= (\text{Opening Stock} + \text{Closing Stock})/2 \\ &= (75,000 + 1,00,000)/2 = 87,500 \end{aligned}$$

$$\text{Inventory Turnover Ratio} = \text{COGS}/\text{Average Inventory} = 1,87,500/87,500 = 2.14 \text{ times}$$

**Illustration 3:** Total sales of a firm ₹ 5,00,000 of which the credit sales are ₹ 3,65,000. Sundry Debtors and Bills receivable are ₹ 50,000 and ₹ 2,000 respectively. Calculate the Debtors Velocity.

**Solution:**

$$\begin{aligned} \text{Debtors Turnover Ratio} &= \text{Net Credit Sales}/(\text{Debtors} + \text{Bills Receivables}) \\ &= 3,65,000/(50,000 + 2,000) = 7.02 \end{aligned}$$

$$\text{Debtors Velocity} = \text{No. of Days in a Year}/\text{Debtors Turnover Ratio}$$

$$\text{Debtors Collection Period} = 365/7.02 = 52 \text{ days}$$

**Note:** No. of days in a year is taken as 365 days.

**Illustration 4:** Total purchases ₹ 1,00,000. Cash purchases ₹ 20,000. Discount provision on creditors ₹ 1,000. Purchase returns ₹ 2,000. Creditors at close ₹ 30,000. Bills payable at close ₹ 25,000. Calculate Creditors Velocity.

**Solution:**

$$\begin{aligned} \text{Credit Purchases} &= \text{Total Purchase} - \text{Cash Purchase} - \text{Purchase Return} \\ &= 1,00,000 - 20,000 - 2,000 = ₹ 78,000 \end{aligned}$$

$$\begin{aligned} \text{Creditors Turnover Ratio} &= \text{Net Credit Purchases}/(\text{Creditors} + \text{Bills Payable}) \\ &= 78,000/(30,000 + 25,000) = 1.42 \end{aligned}$$

$$\text{Creditors Velocity} = \text{No. of Days in a Year}/\text{Creditors Turnover Ratio}$$

$$\text{Creditors Collection Period} = 365/1.42 = 257 \text{ days}$$

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

**Illustration 5:** Total sales of a firm ₹ 5,00,000 of which the credit sales are ₹ 3,65,000. Sundry Debtors and Bills receivable are ₹ 50,000 and ₹ 2,000 respectively. Calculate the Debtors Velocity.

**Solution:**

$$\begin{aligned} \text{Debtors Turnover Ratio} &= \text{Net Credit Sales}/(\text{Debtors} + \text{Bills Receivables}) \\ &= 3,65,000/(50,000 + 2,000) = 7.02 \end{aligned}$$

$$\begin{aligned} \text{Debtors Velocity} &= \text{No. of days in a year}/\text{Debtors turnover ratio (Debtors collection period)} \\ &= 365/7.02 = 52 \text{ days} \end{aligned}$$

**Note:** No. of days in a year is taken as 365 days.



Illustration 6: Total purchases ₹ 1,00,000. Cash purchases ₹ 20,000. Discount provision on creditors ₹ 1,000. Purchase returns ₹ 2,000. Creditors at close ₹ 30,000. Bills payable at close ₹ 25,000. Calculate Creditors Velocity.

Solution:

$$\begin{aligned}\text{Credit Purchases} &= \text{Total Purchase} - \text{Cash Purchase} - \text{Purchase Return} \\ &= 1,00,000 - 20,000 - 2,000 = ₹ 78,000\end{aligned}$$

$$\begin{aligned}\text{Creditors Turnover Ratio} &= \text{Payable Bills Creditors (Purchases + Bills Payable)} \\ &= 78,000 / (30,000 + 25,000) \\ &= 1.42\end{aligned}$$

$$\text{Creditors Velocity} = \text{Period Collection Creditors (No. of Days in a Year)}$$

$$\text{Creditors Collection Period} = 365 / 1.42 = 257 \text{ days}$$

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

**(c) Profitability Ratios:** The management of the firm is interested in the financial soundness of a firm. They are designed to provide answers to questions such as: (i) Is the profit earned by the firm adequate? (ii) What rate of return does it represent? (iii) What is the rate of profit for various divisions and segments of the firm? (iv) What was the amount paid in dividends? (v) What was the amount paid in dividends? (vi) What is the rate of return to equity holders?

Profitability ratios help in measuring the operating efficiency of the firm. Besides the management of the company, creditors, owners and shareholders are also interested in the profitability of the firm. There are two categories of profitability ratios: (a) gross profit margin and (b) net profit margin.

### 1. Profit in Relation to Sales

**Gross Profit Margin:** It measures the percentage of each sales rupee remaining after the firm has paid for its goods. The gross profit margin or gross margin measures the relationship between profit and sales. There are two types of margins-gross profit margin and net profit margin. It indicates the efficiency with which the firm produces each unit of the product. It is computed as:

$$\text{Gross Profit Margin} = \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Net Sales}} = \text{Gross Profit/Net Sales} \times 100$$

where, Net Sales = Sales – Excise Duty

$$\text{For KR Ltd., Gross Profit Margin} = \frac{4,80,000}{12,00,000} = 0.40, \text{ i.e., } 40\%.$$

A high ratio of gross profit to sales is a sign of good management as it implies that the cost of production is relatively low. A relatively low gross margin is definitely a danger signal, a need for careful and detailed analysis of the factors responsible for it.

**Net Profit Margin:** It indicates the overall efficiency of the firm in manufacturing, administering and selling the product. It is computed as:

$$\text{Net Profit Margin} = \text{Net Profit/Net Sales} \times 100$$

$$\text{For KR Ltd., Net Profit Margin} = \frac{80,000}{12,00,000} = 0.067, \text{ i.e., } 6.7\%.$$

This measures the relationship between net profits and sales of a firm. It measures the percentage of each sales rupee remaining after all costs and expenses including interest and taxes have been deducted.

$$\text{Operating Profit Ratio} = \text{EBIT/Net Sales} \times 100$$

**For KR Ltd., Operating Profit Ratio =**

$$\text{Net Profit Ratio} = \text{EAT/Net Sales} \times 100$$

The net profit margin is indicative of management's ability to operate the business with sufficient success not only to recover all the cost but also to leave a margin of reasonable compensation to the owners. Higher the ratio of net operating profit to sales better is the operational efficiency of the concern.

**Expenses Ratio:** These ratios indicate the relationship of various expenses to net sales. It is computed by dividing expenses by sales. Operating expenses include cost of goods sold, administrative expenses, selling, distribution expense and financial expenses but excludes taxes, dividends and extraordinary losses.

$$\text{Operating Ratio} = \text{Cost of Goods Sold} + \text{Operating Expenses/Net Sales} \times 100$$

$$\text{Cost of Goods Sold} = \text{Opening Stock} + \text{Purchase} - \text{Closing Stock}$$

$$\text{Operating Expenses} = \text{Administrative Expenses} + \text{Financial Expenses} + \text{Selling Expenses}$$

The expenses ratio should be compared over a period of time with the industry average. A low ratio is preferable to high one is unfavorable. For manufacturing concern, an operating ratio between 75% and 80% is expected.

$$\text{Expense Ratio} = \frac{\text{Administrative Expenses or Selling and Distribution Expenses or Financial Expenses}}{\text{Net Sales}} \times 100$$

**Earning Power:** It is a measure of a firm's operating performance. It is equal to:

$$\frac{\text{Earnings Before Interest and Taxes}}{\text{Average Total Assets}}$$

$$\text{For KR Ltd., earning power} = \frac{1,68,000}{(8,40,000 + 9,20,000)/2} = 0.19.$$

**Return on Equity (ROE):** ROE indicates how well the firm has used the resources of the owners. It is computed as:

$$\frac{\text{Net Income}}{\text{Average Equity}}$$

A higher return on equity indicates the efficiency of the firm in utilizing the shareholder's resources.

$$\text{For KR Ltd., ROE} = \frac{80,000}{(4,80,000 + 5,20,000)/2} = 0.16.$$

**Return on Capital Employed:** It refers to long-term funds supplied by the lenders and owners of the firm. The capital employed provides a test of profitability related to the source of long-term funds. A comparison of this ratio with similar firms, with the industry average and over time would provide sufficient insight into how efficiently the long-term funds of owners and lenders are being used.

$$\text{ROCE} = \text{EBIT/Capital employed} \times 100$$

The higher the ratio, the more efficient use of the capital employed and better is the financial position.

**Return on Shareholders' Equity:** It measures the return on the total equity funds of ordinary shareholders. This ratio judges whether the firm has earned a satisfactory return for its equity holders or not.

$$\text{ROEF} = \text{Net Profit after Tax} - \text{Preference Dividends} / \text{Shareholders' Equity or Net Worth} \times 100$$

**Illustration 7:** Ranjandas Ltd. provides the following information.

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

**Solution:**

$$\text{Gross Sales} = \text{Cash Sales} + \text{Credit Sales} = 8,00,000 + 10,00,000 = 18,00,000$$

$$\text{Net Sales} = \text{Gross Sales} - \text{Return Inwards} = 18,00,000 - 20,000 = 17,80,000$$

$$\text{Gross Profit} = \text{Net Sales} - \text{COGS} = 17,80,000 - 15,80,000 = 2,00,000$$

$$1. \text{ Gross Profit Ratio} = (\text{Gross Profit} / \text{Net Sales}) \times 100 = [2,00,000 / 17,80,000] \times 100 = 11.2\%$$

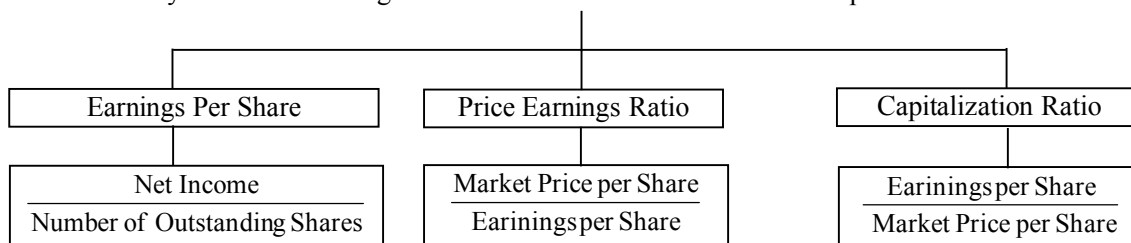
$$2. \text{ Ratio of COGS} = 100 - \text{GP Ratio} = 100 - 11.2 = 88.8\%$$

**(d) Ownership Ratios:** Ownership ratios help in analyzing the value of the shareholders' investments in the firm. They help in evaluating the firm's value with respect to different aspects like earnings of the firm, dividends declared, debt employed by the firm, market price of the firm, etc. Ownership ratios can be divided into three different categories:

1. Earnings Ratios
2. Leverage Ratios
3. Dividend Ratios

### Earnings Ratios

They reflect the earnings of the firm and its affect on the market price of the stock



**1. Earnings Ratios:** These ratios help in indicating the earnings of the firm and its effect on the price of the share.

**Earnings per Share (EPS):** EPS helps in computing the profitability of shareholder's investments in the firm. It is computed as:

$$\frac{\text{Profit after Tax}}{\text{Number of Outstanding Shares}}$$

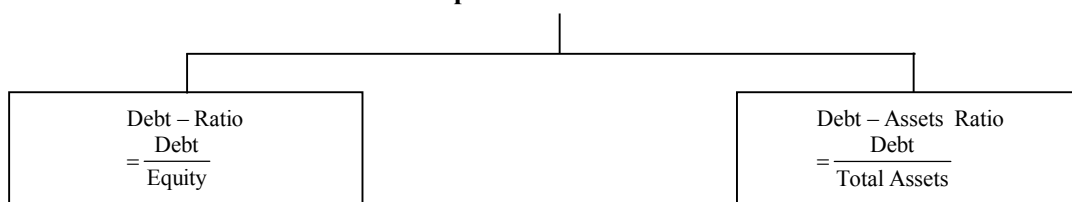
$$\text{For KR Ltd., EPS} = \frac{80,000}{12,000} = 6.67$$

**Price-earnings Ratio (P/E Ratio):** P/E ratio helps in studying the affect of the earnings of the firm on the market price of the share. It is calculated as:  $\frac{\text{Market Price of the Share}}{\text{Earnings per Share}}$ .

**Capitalisation Rate:** It is the reciprocal of P/E ratio. It indicates the rate of return expected by the investors.

**2. Leverage Ratios:** Leverage ratios help in analysing the long-term solvency of the firm. They are divided into two categories: Capital structure ratios and Coverage ratios.

### Capital Structure Ratios



**Solvency/Capital Structure Ratios:** These ratios indicate the proportions of debt and equity in the capital structure of the firm. Debt-equity ratio and Debt-assets ratio fall under this category.

The long-term lenders/creditors would judge the soundness of a firm on the basis of the long-term financial strength measured in terms of its ability to pay the interest regularly as well as repay the installment of the principal on due dates or in one lump sum at the time of maturity. There are two aspects of the long-term solvency of a firm: (i) the ability to repay the principal when due, and (ii) regular payment of the interest. Accordingly, there are two different but mutually dependent and interrelated types of leverage ratios.

Balance Sheet Ratios	Capital Structure Ratios
Debt-equity ratio	Interest coverage ratios
Debt-asset ratio	Dividend coverage ratios
Equity-asset/Proprietors' fund ratio	Total fixed charges coverage ratios
	Cash flow coverage ratios
	Debt service coverage ratios

**Debt-equity Ratio:** It describes the lender's contribution in the capital structure in relation to that of the owner. It is computed as:

$$\frac{\text{Debt}}{\text{Equity}}$$

In the above ratio, debt in the numerator includes both long-term as well as current liabilities and the denominator is composed of net worth and preference capital that is not redeemable within one year.

$$\text{For KR Ltd., Debt-equity Ratio} = \frac{4,00,000}{5,20,000} = 0.77.$$

The D/E ratio is an important tool to appraise the financial structure of a firm. The ratio reflects the relative contribution of creditors and owners of business in its financing. If D/E ratio is 1:2 it implies that for every rupee of outside liability (debt) the firm has two rupees of owner's capital or the stake of the creditors is one-half of the owners. Therefore a safety margin of 66.67 per cent is available to the creditors of the firm. A higher debt-equity ratio say 2:1 implies low safety margin to the creditors. It would lead to inflexibility in the firm's operation.

**Treatment of Preference Share Capital in D/E Ratio:** The inclusion or exclusion of preference share capital depends upon the purpose for which the D/E ratio is computed. If the objective is to examine the financial solvency of a firm in terms of its ability to avoid financial risk, preference capital should be clubbed with equity capital. On the other hand, if D/E ratio is calculated to show the effect of the use of fixed-interest/dividend sources of funds on the earnings available to the ordinary shareholders, preference capital should be clubbed with debt.

**Trading on Equity:** A high debt-equity ratio denotes the use of larger proportion of debt capital in the financial structure of the firm. The debt capital is cheaper to equity capital because interest on debt is a tax deductible expense. The equity shareholders stand to gain for two reasons: (i) Higher returns, (ii) Limited stake would enable them to retain control. Trading on equity or leverage is the use of borrowed funds in expectation of higher returns to equity shareholders.

**Debt Assets Ratio:** It helps in finding the extent to which the assets of the firm are funded by borrowed funds.  $\text{Debt Asset Ratio} = \frac{\text{Total Debt}}{\text{Total assets}}$ .

$$\text{For KR Ltd., Debt Assets Ratio} = \frac{4,00,000}{9,20,000} = 0.43.$$

- A low ratio of debt to total assets is desirable from the point of creditors/lenders as there is sufficient margin of safety available to them.
- A high ratio would expose the creditors to high risk. The implications of the ratio of equity capital to total capital are exactly opposite to that of the debt to total assets. A firm should have neither a very high ratio nor a very low ratio.

**Proprietary Ratio:** This ratio indicates the proportion of total assets financed by the owners.

$$\text{Proprietary Ratio} = \frac{\text{Fund's Proprietor}}{\text{Assets Total}}$$

- Higher ratio, say more than 75% shows lesser dependence on external sources.
- Lower ratio, say less than 60% shows more dependence on external sources.

**Capital Gearing Ratio:** It shows the mix of finance employed in the firm.

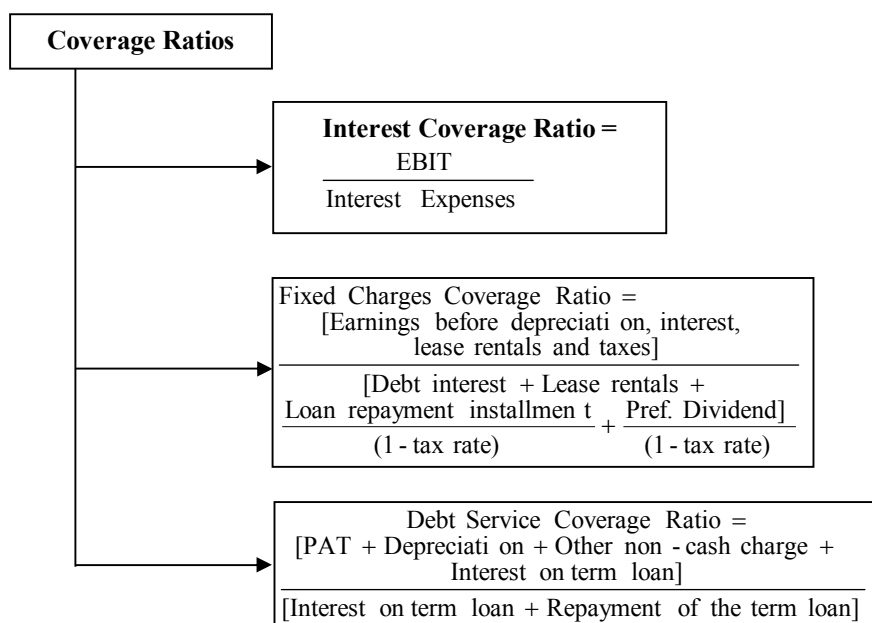
$$\text{Capital Gearing Ratio} = \frac{\text{Fixed Income bearing Securities}}{\text{Total Equity}}$$

### Important Concepts

Equity Capital = Loan Capital = Even Gear

Equity Capital > Loan Capital = Low Gear = Over Capitalization

Equity Capital < Loan Capital = Higher Gear = Under Capitalization



**Coverage Ratios:** These ratios help in evaluating the ability of the firm to meet its financial obligations. Interest Coverage Ratio, Fixed Charges Coverage Ratio and Debt Service Coverage Ratio come under this category. These ratios measure the firm's ability to pay certain fixed charges. In the ordinary course of business, the obligations of the creditors are met out of the earnings or operating profits. These claims consist of: (i) interest on loans, (ii) preference dividend, and (iii) amortization of principal or repayment of the installment of loans or redemption of preference capital on maturity. The important coverage ratios are: (i) interest coverage, (ii) dividend coverage, (iii) total coverage, (iv) total cash flow coverage, and (v) debt service coverage ratio.

**Interest Coverage Ratio:** It indicates the ability of the firm to meet the interest payments associated with debt. It is computed as: 
$$\frac{\text{EBIT}}{\text{Interest Expense}}$$

It can also be computed as: 
$$\frac{\text{Earnings Before Depreciation, Interest and Taxes}}{\text{Interest Expense}}$$

An interest coverage of five times indicates that a fall in EBIT level to one-fifth of the present level, the operating profits available for servicing the interest on loan would still be equivalent to the claims of the lenders. From the lenders point of view higher the coverage, better is the position of long-term creditors. It also highlights the ability of the firm to raise additional funds in future.

**Fixed Charges Coverage Ratio:** It is a more comprehensive ratio as it measures the ability of the firm to pay its interest charges as well as principal repayments, lease payments and preference dividends. It is computed as:

$$\frac{\text{Earning Before Depreciation, Interest and Taxes}}{\text{Debt Interest} + \text{Lease rentals} + \frac{\text{Loan Repayment Installment}}{(1 - \text{tax rate})} + \frac{\text{Preference Dividends}}{(1 - \text{tax rate})}}$$

**Debt Service Coverage Ratio:** It is considered a more comprehensive and apt measure to compute debt service capacity of the firm. It is the ability of a firm to make the contractual payments required on a scheduled basis over the life of the debt. It helps in measuring the ability of the post-tax earnings to meet the total obligations of the firm. It is calculated as:

$$\frac{\text{PAT} + \text{Depreciation} + \text{other Non-cash Charges} + \text{Interest on Term Loan}}{\text{Interest on Term Loan} + \text{Repayment of the term Loan}}$$

The higher the ratio, the better it is. A ratio of less than one may be taken as a sign of long-term solvency problem as it indicates that the firm does not generate enough cash internally to service debt. Financial Institutions consider 2:1 as satisfactory ratio.

**3. Dividend Coverage:** It measures the ability of a firm to pay dividend on preference shares which carry a stated rate of return. Higher the coverage better is the position.

Dividend Coverage (Preference) = Net Profit after Tax/Preference Dividend

Dividend Coverage (Equity) = EBIT – Preference Dividend/Equity Dividend

**Illustration 8:** The Balance Sheet of Dravid Ltd., is as follows:

<b>Assets:</b> Fixed Assets	10,00,000
Current Assets	5,00,000
<b>Represented by:</b>	
<b>Liabilities:</b> Trade creditors	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)  
 = (2,00,000 + 1,00,000)/(10,00,000 + 5,00,000)  
 = 3,00,000/15,00,000 = 1:5
- Debt – Equity Ratio = Outsiders Funds/Equity Shareholders or  
 = (Debentures + Trade Creditors)/(Eq. Sh. Capital + Pref. Sh. Cap. + Reserves)  
 = 3,00,000/12,00,000 = 1:4

**Dividend Ratios:** The equity holders of a firm are interested in the dividend policy of the firm. The two dividend ratios i.e., Dividend Payout ratio (D/P ratio) and the Dividend Yield ratio help the shareholders in evaluating the dividend policy of the firm.

**Dividend Pay-out Ratio:** It indicates the proportion of total earnings that are declared as dividends to shareholders. It is computed as:  $\frac{\text{Dividend per Share}}{\text{Earnings per Share}}$ .

**Dividend Yield:** This ratio helps in analyzing dividends with respect to the market price of the share. It indicates the current return earned by the shareholder on his investment. It is computed as:

$$\frac{\text{Dividend per Share}}{\text{Market Price of the Share}}$$

## Advantages of Ratio Analysis

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 these 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:** 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 enhances 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.

## 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 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 are 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 in the case of concerns which are not associated or comparable.
12. All techniques concerning the ratio analysis should be taken into account.

### Summary Accounting Ratios

Sr.	Ratios	Formula	Expressed As	Suitability	Purpose Purpose	Remarks
1	Gross Profit Ratio	$\frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$	Percentage	High Ratio	To Judge Profitability	Operating Efficiency of Company
2.	Net Profit Ratio	$\frac{\text{Op. Net Profit}}{\text{Net Sales}} \times 100$	Percentage	High Ratio	To Judge Profitability	
	(a) Op. Net Profit Ratio					
	(b) Net Profit Before Tax Ratio	$\frac{\text{NPBT}}{\text{Net Sales}} \times 100$	Percentage	High Ratio	To Judge Profitability	
	(c) Net Profit After Tax Ratio	$\frac{\text{NPAT}}{\text{Net Sales}} \times 100$	Percentage	High Ratio	To Judge Profitability	
3.	Op. Ratio	$\frac{\text{Cos.} + \text{Op. Exp.}}{\text{Net Sales}} \times 100$	Percentage	Low Ratio	To know Op. Cost & Profit	
4.	Expenses Ratio	$\frac{\text{Adm. Exp./S \& D Exp./Fin. Exp./Dep. Exp.}}{\text{Net Sales}} \times 100$	Percentage	Low Ratio	To know Op. Cost & Profit	All Operating Expenses
		$\frac{\text{Total Op. Exp.}}{\text{Net Sales}} \times 100$	Percentage	Low Ratio	To know Op. Cost & Profit	
5.	Stock T/O Ratio (Stock Velocity Ratio)	$\frac{\text{COS}}{\text{Average RM Stock}}$	Times	High Ratio	To know Stock Turnover & Management	
	(a) Raw Materials T/O Ratio	$\frac{\text{Raw Material Consumed}}{\text{Average RM Stock}}$	Times	High Ratio	To know Stock Turnover & Management	
	(b) Work In Progress T/O Ratio	$\frac{\text{COP}}{\text{Average WIP Stock}}$	Times	High Ratio	To know Stock Turnover & Management	Cost of Production
6.	Current Ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	Pure Ratio (std 2:1)	High Ratio	To know short-term Solvency	
7.	Quick Ratio	$\frac{\text{Quick Assets}}{\text{Quick Liabilities}}$	Pure Ratio (std 1:1)	High Ratio	To know immediate Solvency (Liquid Ratio)	CA-STK_PP EXP CL- Bank OD-C.C

8.	Stk Working Capital Ratio	$\frac{\text{Closing Stock}}{\text{Working Capital}} \times 100$	Percentage (Std < 100%)	Low Ratio	To know extent of WC invested in stock	WC = CA – CL (net WC)
9.	Proprietary Ratio/Equity Ratio	$\frac{\text{Prop's Funds}}{\text{Total Assets (Excl. Misc.Exp.)}} \times 100$	Percentage (std > 50%)	High Ratio	To Judge Long-term Solvency & Stability of Co.	FA + CA + Inv.
10.	Debt/Equity Ratio	$\frac{\text{Debt (Long - term Loans)}}{\text{Equity (Shareholders Funds)}}$	Pure Ratio (std < 2:1)	Low Ratio	To Judge Long-term Solvency & Stability of Co.	
11.	Capital Gearing Ratio	$\frac{\text{Funds with Fix Interest}}{\text{Funds with Fluctuating Interest}}$	Pure Ratio (std < 1)	Low Ratio	To Judge long-term Solvency & Stability of Co.	Fix Int. = Loans + Pref Sh non Fix Int = Eq Sh – Pref Sh
12.	Return on Interest Capital Employed	$\frac{\text{Op Net Profit + Int.}}{\text{Capital Employed (SHF + Long - term Loans)}} \times 100$	Percentage	Low Ratio	To know overall Profitability Earned Compared to T.F.	(Share-holders Funds + Long-term Loans)
13.	Return on Total Assets/Total Resources	N.P.B.T. + Interest Total Assets (Except Misc. Exp.) (Total Resources)	Percentage	High Ratio	To know overall Profitability Earned to T.F.	Total Assets = FA + Inv + CA OR SHF + LTR + CL
14.	Return on Prop. Funds	$\frac{\text{NPAT + Interest}}{\text{Shareholders Fund}} \times 100$	Percentage	High Ratio	% of Profit Earned on Prop. Funds	
15.	Return on Eq. Shareholders Fund	$\frac{\text{NPAT – Pref. Dividend}}{\text{Prop. Fund – Pref. Sh. Cap.}} \times 100$	Percentage	High Ratio	% of Profit Earned on Eq. Sh. H. Fund	
16.	Debtors Turn-over Ratio	$\frac{\text{Net Credit Sales Average}}{\text{Drs. and Bills Rec.}}$	Times	High Ratio	Collection From Debtors in Year	Op. DRS + CL Drs/2 IF no op DRs given, take CL Drs
	Avg Collection Period/Age of Drs.	$\frac{\text{Avg. Drs. \& B.R}}{\text{Net Credit Sales}} \times 365 \text{ D}$	D/M	Short Period	Credit Period Allowed to Debtors	Or Divide by 12 M/52 Weeks
17.	Creditors Turn-over Ratio	$\frac{\text{Net Credit Purchases}}{\text{Average Crs. \& Bills Pay}}$	Times	High Ratio	Payments to Creditors in Year	
	Avg Payment Period/Age of Crs	$\frac{\text{Avg. Drs. \& B.R}}{\text{Net Credit Sales}} \times 365 \text{ D}$	Times	High Ratio	Cr. Period Allowed by Creditors	OR Divide by 12 M/52 Weeks

18	Earning Per Share (E.P.S.)	$\frac{\text{NPAT} - \text{Pref. Dividend}}{\text{No of Equity Shares}}$	Rs.	High Ratio	To Know Profit & Kt Price of Shares	
19	Price Earning Ratio (P.E.)	$\frac{\text{Market Price of Shares}}{\text{E.P.S}}$	Times	Low Ratio	Provide guidance for investments	
20	Dividend Pay Out Ratio (D/P Ratio)					
	(a)	$\frac{\text{Total Dividend on Eq. \& Pref. Share}}{\text{NPAT}} \times 100$	Percentage	High Ratio	% of NP distributed by way of Dividend High Ratio Liberal Dividend Policy and Low Ratio Conservative Dividend Policy	
	(b)	$\frac{\text{Eq. Dividend per Shares}}{\text{EPS}} \times 100$				
21	Yield Ratio					
	(a) Dividend	$\frac{\text{Eq. Dividend per Shares}}{\text{MKT Price}} \times 100$	Percentage	High Ratio	It gives divided and earning % on the MKT Price of the shares; also represents the real dividend rate/earning rate	
	(b) Earning Yield Ratio	$\frac{\text{EPS}}{\text{MKT Price}} \times 100$				
22	Debt Service Coverage Ratio	NPAT + Dep. & other non cash EXP + Int. Interest + p.a.	> 1 or < 1	High Ratio	To Judge the capacity of Borrower to pay int. and Loan Install.	
23	Interest Coverage Ratio	$\frac{\text{NPBT} + \text{Interst}}{\text{Interest}}$	Times	High Ratio	To Judge Profit available for paying interest and Installment	NPBT-TAX & int. = NPAT + Tax Int. On Loans
24	FA Turnover to Ratio	$\frac{\text{Sales} / \text{COS}}{\text{Net FA}}$				

25	Capital Turnover Ratio	$\frac{\text{Sales / COS}}{\text{Capital Employed}}$				
26	Working Capital T/O Ratio	$\frac{\text{Sales / COS}}{\text{Working Capital}}$				
27	Assets T/O Ratio	$\frac{\text{Sales Average}}{\text{Assets}}$				
28	Pref Dividend Coverage Ratio	$\frac{\text{NPAT (before) Pref. Div.}}{\text{EQ Dividend}}$				
29	Eq. Dividend Coverage Ratio	$\frac{\text{NPAT – Pref. Div.}}{\text{EQ Dividend}}$				
30	FA to SH Fund Ratio	Fixed Assets Shareholders Funds				
31	Debt Assets Ratio	Debt Assets				
32	Return on Assets Ratio	Net Profit Average Assets or Sales				

**Illustration 9:** The following is the Trading and Profit and Loss Account of a Limited Company for the year ended 31st March, 2014.

**Profit and Loss Account**

Particulars	₹	particulars	₹
To Stock	76,250	By sales	5,00,000
To Purchases	3,15,250	By Stock	98,500
To Carriage and freight	2,000		
To Wages	5,000		
To Gross Profit	2,00,000		
	<b>5,98,500</b>		<b>5,98,500</b>

Particulars	₹	particulars	₹	₹
To Administrative Expenses	1,00,000	By Gross Profit		2,00,000
To Finance Expenses:		By Non operating Income:		
Interest	2,200	Interest on security	1,500	
Discount	2,400	Dividend on shares	3,750	
Bad debts	3,400	Profit on sale of shares	750	6,000
To Selling and Distribution Expenses	12,000			
To Non-operating expenses				
Loss on sale of securities	350			
Provision for legal suit	1,650			
To Net Profit	84,000			
	<b>2,06,000</b>			<b>2,06,000</b>

Convert the above Profit and Loss A/c. into vertical form and calculate following ratios.

- (i) Expenses ratio
- (ii) Gross profit ratio.
- (iii) Net profit ratio.

(iv) Operating net profit ratio.

(v) Operating ratio.

(vi) Stock turnover ratio.

(T.Y. B.Com., Modified, MU)

**Solution:** In the books of Ltd. Company Vertical Income Statement  
for the year 31st March 2014

Particulars	Amount	Amount
<b>Sales</b>		5,00,000
<b>Less: Cost of Goods Sold</b>		
Opening Stock	76,250	
(+) Purchases	3,15,250	
(+) Carriage & Freight	2,000	
(+) Wages	5,000	
(-) Closing Stock	98,500	3,00,000
Gross Margin		2,00,000
<b>Less: Operating Expenses</b>		
(i) Office Expenses		
Administrative Expenses	1,00,000	
(ii) Selling & Distribution Expenses	12,000	
(iii) Financial Expenses		
Interest	2,200	
Discount	2,400	
Bad Debts	3,400	1,20,000
Operating Profit		80,000
<b>Add: Non Operating Income</b>		
Interest on Security	1,500	
Dividend on Shares	3,750	
Profit on Sale of Shares	750	6,000
		86,000
<b>Less: Non Operating Expenses</b>		
Loss on Sale of Security	350	
Provision for Legal Suit	1,650	2,000
Net Profit before Tax		84,000

**Ratios:**

$$(i) \text{ Expenses Ratio: (a) } \frac{\text{Cost of goods sold}}{\text{Net Sales}} \times 100 = \frac{3,00,000}{5,00,000} \times 100 = 60\%$$

$$\text{Expense Ratio} = \frac{\text{Expenses}}{\text{Net Sales}} \times 100$$

$$(b) \text{ Office Expenses Ratio} = \frac{\text{Office Expenses}}{\text{Net Sales}} \times 100 = \frac{1,00,000}{5,00,000} \times 100 = 20\%$$

$$(c) \text{ Selling and Distribution Expenses Ratio} \\ = \frac{\text{Selling \& Distribution}}{\text{Net Sales}} \times 100 = \frac{12,000}{5,00,000} \times 100 = 2.4\%$$

$$(d) \text{ Financial Expenses Ratio} = \frac{\text{Financial Expenses}}{\text{Net Sales}} \times 100 = \frac{8,000}{5,00,000} \times 100 = 1.6\%$$

$$(ii) \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \frac{2,00,000}{5,00,000} \times 100 = 40\%$$

$$(iii) \text{ Net Profit Ratio} = \frac{\text{Net Profit Before tax}}{\text{Net Sales}} \times 100 = \frac{84,000}{5,00,000} \times 100 = 16.8\%$$

$$(iv) \text{ Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100 = \frac{80,000}{5,00,000} \times 100 = 16\%$$

$$(v) \text{ Operating Ratio} = \frac{(\text{Cost of Goods sold} + \text{Operating Expenses})}{\text{Net Sales}} \times 100$$

$$\text{Operating Ratio} = \frac{3,00,000 + 1,20,000}{5,00,000} \times 100 = \frac{4,20,000}{5,00,000} \times 100 = 84\%$$

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

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = \frac{76,250 + 98,500}{2} = \frac{1,74,750}{2} = 87,375$$

$$\text{Stock Turnover Ratio} = \frac{3,00,000}{87,375} = 3.43 \text{ times}$$

**Illustration 10:** From the following Financial Statements of Rimzim Ltd., calculate all the 16 Accounting Ratios and comment on their significance.

**RIMZIM LTD.**

**Manufacturing, trading and Profit and Loss Account the Year ended 31st March, 2014.**

Particulars	₹	particulars		₹
To Opening Stock	5,00,000	By sales:		
To Purchases	11,00,000	Cash	3,00,000	
To Wages	3,00,000	Credit	17,00,000	20,00,000
To Factory Overheads	2,00,000	By Closing Stock		6,00,000
To Gross Profit c/d.	5,00,000			
	<b>26,00,000</b>			<b>26,00,000</b>
To Administrative expenses	75,000	By Gross Profit b/d.		5,00,000
To Selling and Distribution Expenses	50,000	By Dividend on investments		10,000
To Debenture interest	20,000	By Profit on sale of furniture		20,000
To Depreciation	60,000			
To Loss on Sale of motor car	5,000			
To Net profit c/d.	3,20,000			
	<b>5,30,000</b>			<b>5,30,000</b>
To Pref. Dividend (net) (Interim)	15,000	By Balance b/d.		2,71,000
To Provision for Taxation	1,76,000	By Net profit		3,20,000
To Balance c/d.	4,00,000			
	<b>5,91,000</b>			<b>5,91,000</b>

**Balance Sheet as at 31st March, 2014**

Liabilities	₹	Assets	₹
Equity share capital	10,00,000	Goodwill (at cost)	5,00,000
6% Preference Share capital	5,00,000	Plant and Machinery	6,00,000
General Reserve	1,00,000	Land and Building	7,00,000

10% Debentures	2,00,000	Furniture and Fixtures	1,00,000
Profit and Loss A/c.	4,00,000	Stock in trade	6,00,000
Provision for Taxation	1,76,000	Bills Receivable	30,000
Bills payable	1,24,000	Debtors	1,50,000
Bank Overdraft	1,20,000	Bank	2,20,000
Creditors	2,80,000		
	<b>29,00,000</b>		<b>29,00,000</b>

(CA/CMA, Modified)

**Solution:**

## Profit &amp; Loss Related Ratios

$$1. \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \frac{5,00,000}{20,00,000} \times 100 = 25\%$$

## 2. Net Profit Ratio

$$(a) \frac{\text{Net Profit Before tax}}{\text{Net Sales}} \times 100 = \frac{3,20,000}{20,00,000} \times 100 = 16\%$$

$$(b) \frac{\text{Net Profit After tax}}{\text{Net Sales}} \times 100 = \frac{1,44,000}{20,00,000} \times 100 = 7.2\%$$

$$3. \text{ Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

$$\therefore \text{ Operating Profit Ratio} = \frac{2,95,000}{20,00,000} \times 100 = 14.75$$

$$4. \text{ Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100$$

$$\begin{aligned} \text{Operating Cost} &= \text{Cost of Goods Sold} + \text{Operating Expenses} \\ &= 15,00,000 + 2,05,000 = 17,05,000 \end{aligned}$$

$$\text{Operating Ratio} = \frac{17,05,000}{20,00,000} \times 100 = 85.25\%$$

## 5. Expenses Ratio

$$(a) = \frac{\text{Administrative Expenses}}{\text{Net Sales}} \times 100 = \frac{1,35,000}{20,00,000} \times 100 = 6.75\%$$

$$(b) = \frac{\text{Selling and Distribution Expenses}}{\text{Net Sales}} \times 100 = \frac{50,000}{20,00,000} \times 100 = 2.5\%$$

$$(c) = \frac{\text{Finance Expenses}}{\text{Net Sales}} \times 100 = 1\%$$

$$(d) = \frac{\text{Cost of Goods Sold}}{\text{Net Sales}} \times 100 = \frac{15,00,000}{20,00,000} \times 100 = 75\%$$

$$6. \text{ Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = \frac{5,00,000 + 6,00,000}{2} = \frac{11,00,000}{2} = 5,50,000$$

$$\text{Stock Turnover Ratio} = \frac{15,00,000}{5,50,000} = 2.73 \text{ Times}$$

### Balance Sheet Related Ratios

$$7. \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{10,00,000}{7,00,000} = 1.43 : 1$$

$$8. \text{ Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\text{Quick Assets} = \text{C.A.} - \text{Stock} - \text{Prepaid Expenses} = 10,00,000 - 6,00,000 - \text{Nil} = 4,00,000$$

$$\text{Quick Liabilities} = \text{C.L.} - \text{Bank O/D} = 7,00,000 - 1,20,000 = 5,80,000$$

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{4,00,000}{5,80,000} = 0.69 : 1$$

$$9. \text{ Proprietary Ratio} = \frac{\text{Owners Fund}}{\text{Total Assets}} \times 100$$

$$\text{T.A} = \text{F.A} + \text{C.A} = 19,00,000 + 10,00,000 = 29,00,000$$

$$\text{Proprietary Ratio} = \frac{20,00,000}{29,00,000} \times 100 = 68.97\%$$

$$10. \text{ Stock Working Capital Ratio} = \frac{\text{Closing Stock}}{\text{Working Capital}} \times 100$$

$$\text{Working Capital} = \text{C. Assets} - \text{Cur. Liabilities} = 10,00,000 - 7,00,000 = 3,00,000$$

$$\text{Stock Working Capital Ratio} = \frac{\text{Closing Stock}}{\text{Working Capital}} \times 100 = 200\%$$

$$11. \text{ Debt Equity Ratio} = \frac{\text{Debt}}{\text{Equity}} = \frac{\text{Borrowed Funds}}{\text{Own Funds}} = \frac{2,00,000}{20,00,000} = 0.1 : 1$$

$$12. \text{ Capital Gearing Ratio} = \frac{\text{Borrowed Funds} + \text{Preference Share Capital}}{\text{Equity Capital} + \text{Reserves}}$$

$$= \frac{2,00,000 + 5,00,000}{15,00,000} = \frac{7,00,000}{15,00,000} = 0.47$$

### Combined Ratios

#### 13. Debtors Turnover Ratio

$$(a) \text{ No. of Times} = \frac{\text{Credit Sales}}{\text{Average Account Receivable}}$$

$$\text{Average Accounts Receivable} = 1,50,000 + 30,000 = 1,80,000$$

$$\therefore \text{No. of Times} = \frac{17,00,000}{1,80,000} = 9.4 \text{ Times}$$

$$(b) \text{ Age of Debtors} = \frac{365 \text{ Days}}{\text{Debtors Turnover Ratio}} = \frac{365}{9.44} = 39 \text{ Days approx.}$$

#### 14. Creditors Turnover Ratio



$$(a) \text{ No. of Times} = \frac{\text{Credit Purchases}}{\text{Average Account Payable}}$$

$$\text{Average Accounts Payable} = \text{Creditors} + \text{B/P} = 2,80,000 + 1,24,000 = 4,04,000$$

$$\therefore \text{No. of Times} = \frac{11,00,000}{4,04,000} = 2.72 \text{ Times}$$

$$(b) \text{ Average Payment Periods} = \frac{365 \text{ Days}}{\text{Creditors Turnover Ratio}} = \frac{365}{2.72} = 135 \text{ days approx.}$$

$$15. \text{ Return on Total Assets} = \frac{\text{Net Profit Before Interest and Tax}}{\text{Total Assets}} \times 100$$

$$\begin{aligned} \text{Total Assets} &= \text{Fixed Assets} + \text{Investment} + \text{C.Assets} \\ &= 19,00,000 + \text{Nil} + 10,00,000 = 29,00,000 \end{aligned}$$

$$\begin{aligned} \text{Net Profit before Interest Tax} &= \text{Net Profit After Tax} + \text{Tax} + \text{Interest} \\ &= 1,44,000 + 1,76,000 + 20,000 = 3,40,000 \end{aligned}$$

$$\text{Return on Total Assets} = \frac{3,40,000}{29,00,000} \times 100 = 11.72\%$$

$$16. \text{ Return on Capital Employed} = \frac{\text{Net Profit Before Interest Tax}}{\text{Capital Employed}} \times 100$$

$$\begin{aligned} \text{Capital Employed} &= \text{Owners Fund} + \text{Borrowed Fund} \\ &= 20,00,000 + 2,00,000 = 22,00,000 \end{aligned}$$

$$\text{Return on Capital Employed} = \frac{3,40,000}{22,00,000} \times 100 = 15.45\%$$

**Illustration 11:** The following are abridged accounting reports prepared for P. Ltd.

**Revenue Statement for the year ended 30th June, 2014.**

Particulars	(₹ '000)
Sales (all credit)	300
Less: Cost of goods sold	
Opening inventory	100
Purchases	205
	305
Less: Closing inventory	80
Gross margin	225
Operating expenses	75
Net profit before taxation	57
Provision for taxation	18
Net profit	8
	10

**Balance Sheet as on 30th June, 2014 (₹ '000)**

Liabilities	₹	₹	Assets		₹	₹
Current Liabilities			Current Assets			
Accounts payable	87		Cash		30	
Provision for taxation	8		Accounts receivable		60	
Accrued expenses	5	100	Inventory		80	170

Long-term Liabilities		25	Fixed Assets:			
Long on mortgage		25	Land and Building		65	
Shareholder's funds			Plant	40		
Paid up capital	80		Less: Provision for Depreciation	25	15	80
Reserves	30					
Unappropriated Profits	15	125				
		250				250

Name and calculate the ratios which indicate:

1. The rapidity with which accounts receivable are collected.
2. The ability of the company to meet its current obligations.
3. What 'mark-up' has been attained;
4. The efficiency with which funds represented by inventories are being utilised and managed;
5. The ability of the company to meet quickly demands for payment of amounts due.
6. The relative importance of proprietorship and liabilities as sources of funds.

(T.Y. BAF, Modified, MU)

**Solution:**

1. Debtors Turnover Ratio

$$(a) \text{ No. of Times} = \frac{\text{Credit Sales}}{\text{Average Account Receivable}}$$

$$\text{Average Accounts Receivable} = \frac{60,000}{\text{Credit Sales}} = 3,00,000$$

$$\therefore \text{No. of Times} = \frac{3,00,000}{60,000} = 5 \text{ Times}$$

$$(b) \text{ No. of Days} = \frac{\text{Average Accounts Receivable}}{\text{Credit Sales}} \times 365$$

$$= \frac{60,000}{3,00,000} \times 365 = 73 \text{ days}$$

$$2. \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{1,70,000}{1,00,000} = 1.7 : 1$$

$$3. \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \frac{75,000}{3,00,000} \times 100 = 25\%$$

$$4. (a) \text{ Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = \frac{1,00,000 + 80,000}{2} = \frac{1,80,000}{2} = 90,000$$

$$\text{Stock Turnover Ratio} = \frac{2,25,000}{90,000} = 2.5 \text{ Times}$$

$$(b) \text{ Stock Working Capital Ratio} = \frac{\text{Closing Stock}}{\text{Working Capital}} \times 100$$

$$\text{Working Capital} = \text{C. Assets} - \text{Current Liabilities} = 1,70,000 - 1,00,00 = 70,000$$

$$\text{Stock Working Capital Ratio} = \frac{80,000}{70,000} \times 100 = 114.29\%$$

$$5. \text{ Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\text{Quick Assets} = \text{C.A.} - \text{Stock} - \text{Prepaid Expenses} = 1,70,000 - 80,000 - \text{Nil} = 90,000$$

$$\text{Quick Liabilities} = \text{C.L} - \text{Bank O/D} = 1,00,000 - \text{Nil} = 1,00,000$$

$$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{90,000}{1,00,000} = 0.9 : 1$$

$$6. \text{ Proprietary Ratio} = \frac{\text{Proprietors Funds}}{\text{Total Assets}} \times 100$$

$$\text{Total Assets} = \text{Fixed Assets} + \text{Current Assets} = 80,000 + 1,70,000 = 2,50,000$$

**Illustration 12:** The following is the Balance Sheet of Urmila Limited as on 31 March, 2014.

Liabilities	₹	Assets	₹
Share Capital	3,00,000	Goodwill	80,000
Reserves and Surplus	1,50,000	Land and Building	1,50,000
10% Mortgage Debentures	2,15,000	Plant and Machinery	2,00,000
Sundry Creditors	1,30,000	Patent Right	21,500
Bank Overdraft	40,000	Stocks-in-trade	1,43,500
Provision for Tax	35,000	Sundry Debtors	2,40,000
		Cash in Hand	5,000
		Cash at Bank	10,000
		Preliminary Expenses	20,000
<b>Total</b>	<b>8,70,000</b>	<b>Total</b>	<b>8,70,000</b>

**Additional Information:**

1. Stock in Trade as on 1st April, 2013 1,56,500
2. Turnover Sales for the year ended 31st March' 2014 10,95,000
3. Rate of Gross Profit: 33-1/3%
4. Net Profit (before interest and Tax) 99,000
5. Net Profit (after interest and Tax) 43,000

(a) Present the balance sheet in vertical form

(b) Calculate the following Ratios:

- (i) Capital Gearing.
- (ii) Stock Turnover Ratio,
- (iii) Return on Total Resources,
- (iv) Return on Proprietor Funds
- (v) Return on Ordinary Capital.
- (vi) Turnover of Debtors.

(T.Y. B.Com., Modified, MU)

**Solution:**

**Vertical Balance Sheet as on 31st March, 2014**

Particulars	Amount	Amount
<b>Source of Funds</b>		
I. Owners Fund		

(a) Share Capital	3,00,000	
(b) <i>Add:</i> Reserves & Surplus	1,50,000	
(c) <i>Less:</i> Misc. Expenses		
Preliminary Expenses	20,000	4,30,000
II. Borrowed Fund		
(a) Secured Loan		
10% Mortgage Debentures		2,15,000
Capital Employed		6,45,000
<b>Application of Funds</b>		
I. Fixed Assets		
(a) Tangible Assets		
Land & Building	1,50,000	
Plant & Machinery	2,00,000	
(b) Intangible Assets		
Goodwill	80,000	
Patent Rights	21,500	4,51,500
II. Working Capital		
(a) Current Assets		
Cash in Hand	5,000	
Cash at Bank	10,000	
Debtors	2,40,000	
Add: Stock	1,43,500	
	3,98,500	
(b) <i>Less:</i> Current Liabilities		
Creditor	1,30,000	
Provision for Tax	35,000	
Add: Bank Overdraft	40,000	1,93,500
Working Capital	2,05,000	
Total Assets		6,45,000

$$1. \text{ Quick Gearing Ratio} = \frac{\text{Borrowed Funds} + \text{Preference Share Capital}}{\text{Equity Holders Funds}}$$

$$= \frac{2,15,000 + \text{Nil}}{4,30,000 - \text{Nil}} = 0.50 : 1$$

$$2. \text{ Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$$

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

$$= \frac{1,56,500 + 1,43,500}{2} = \frac{3,00,000}{2} = 1,50,000$$

Gross Profit is 33-1/3%

If Sales is 100 > 10,95,000

Gross Profit 33-1/3 > ?

Cost of Goods Sold 66-2/3 > ?

$$\text{Gross Profit} = \frac{33 - 1/3 \times 10,95,000}{100} = \frac{100 \times 10,95,000}{300} = 3,65,000$$

Sales 10,95,500

(-) G.P. 3,65,000

COGS 7,30,000

$$\therefore \text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{7,30,000}{1,50,000} = 4.87 \text{ Times}$$

$$3. \text{ Return on Total Resources} = \frac{\text{Net Profit Before Interest \& Tax}}{\text{Total Assets}} \times 100$$

Total Assets = Fixed Assets + Current Assets = 4,51,500 + 3,98,500 = 8,50,000

$$\text{Return on Total Resource} = \frac{99,000}{8,50,000} \times 100 = 11.65\%$$

4. Return on Proprietors Fund

$$\text{Return on O.F.} = \frac{\text{Profit After Tax}}{\text{Proprietors Funds}} \times 100 = \frac{43,000}{4,30,000} \times 100 = 10\%$$

$$5. \text{ Return on Ordinary Capital} = \frac{\text{PAT} - \text{Preference Dividend}}{\text{Ordinary Capital}} = \frac{43,000 - \text{Nil}}{3,00,000} \times 100 = 14.33\%$$

6. Turnover of Debtors

Debtors Turnover Ratio

$$(a) \text{ No. of Times} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivable}} = \frac{10,95,000}{2,40,000} = 4.56 \text{ Times}$$

$$(b) \text{ No. of Days} = \frac{\text{Average Accounts Receivable}}{\text{Credit Sales}} \times 365$$

$$= \frac{2,40,000}{10,95,000} \times 365 = 80.04 = 81 \text{ Days approx.}$$

**Illustration 13:** The Summarised balance sheet of D Ltd. as on 30th September, 2014 is as follows:

Liabilities	₹	Assets	₹
Equity share capital	60,000	Fixed Assets	90,000
Reserves	20,000	Inventory	30,000
6% Debentures	50,000	Marketable Investments	10,000
Current Liabilities	30,000	Debtors	15,000
		Cash and Bank Balances	10,000
		Preliminary Expenses	5,000
	<b>1,60,000</b>		<b>1,60,000</b>

The Net profit before tax for the year was ₹ 7,500.

Prepare a Statement suitable for analysis and indicate the soundness of the financial position of the company by calculating the following ratio together with your comments on the same;

- (i) Current Ratio
- (ii) Liquid Ratio
- (iii) Proprietary Ratio

- (iv) Return on Total Resources
- (v) Return on Proprietors' fund
- (vi) Return on Equity Share Capital.

(T.Y. B.Com., Modified, MU)

**Solution:**

1. Current Ratio =  $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{65,000}{30,000} = 2.17:1$
2. Quick Ratio =  $\frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{\text{Current Assets} - \text{Stock}}{\text{Current Liabilities} - \text{Bank O/D}} = \frac{35,000}{30,000} = 1.17:1$
3. Proprietary Ratio =  $\frac{\text{Proprietary Funds}}{\text{Total Assets}} \times 100 = \frac{75,000}{1,55,000} \times 100 = 48.39\%$
4. Return on Total Assets =  $\frac{\text{Net Profit Before Interest Tax}}{\text{Total Assets}} \times$   
 Net Profit Before Interest Tax = Net Profit Tax + Interest = 7,500 + 3,000 = 10,500  
 $\therefore$  Return on Total Assets =  $\frac{10,500}{1,55,000} \times 100 = 6.77\%$
5. Return on Proprietors Fund =  $\frac{\text{PAT}}{\text{Proprietors Funds}} \times 100$   
 Net Profit After Tax = Net Profit Before Tax – Tax = 7,500 – 50% = 3,750  
 $\therefore$  Return on O.F. =  $\frac{3,750}{75,000} \times 100 = 5\%$
6. Return on Equity Share Capital =  $\frac{\text{Net Profit After Tax} - \text{Preference Dividend}}{\text{Equity Share Capital}} \times 100$   
 $= \frac{3,750 - \text{Nil}}{60,000} \times 100 = 6.25\%$

**Note:** It is assumed that tax rate is 50% for the given company.**Illustration 14:** Following are the extracts from the financial statement of M/s. Urmi Ltd. as on 31st December, 2013 and 2014.

	31.12.2014 ₹	31.12.2013 ₹
Closing stock	20,000	50,000
Debtors	40,000	40,000
Bills Receivable	20,000	10,000
Advance Receivable in cash or kind	4,000	10,000
Creditors	50,000	60,000
Bills payable	30,000	40,000
Bank overdraft	–	4,000
Cash on hand	36,000	30,000
9% Debentures (1988)	10,00,000	10,00,000
Sales for the year	7,00,000	6,00,000
Gross Profit	1,40,000	1,00,000

You are required to compute for each of the years:

Current Ratio (b) Liquid Ratio (c) Stock Turnover Ratio (d) Debtors' turnover Ratio (e) Stock to working capital ratio and write in two to three lines your observation on these ratios.

(T.Y. BAF, Modified, MU)

**Solution:**

		1990	1991
1. Current Ratio	$= \frac{\text{Current Assets}}{\text{Current Liabilities}}$	$= \frac{1,40,000}{1,04,000}$ = 1.35 : 1	$= \frac{1,20,000}{80,000}$ = 1.5 : 1
2. Quick Ratio	$= \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$	$= \frac{90,000}{1,00,000}$ = 0.9 : 1	$= \frac{90,000}{1,00,000}$ = 1.25 : 1
3. Debtors Turnover Ratio (a) No. of Times	$= \frac{\text{Credit Sales}}{\text{Average Accounts Rec.}}$	$= \frac{6,00,000}{50,000}$	$= \frac{7,00,000}{55,000}$
Average Accounts Rec. (b) No. of days	$= \frac{\text{Drs. + B/R}}{\text{No. of Times}}$	$= \frac{365}{12}$ = 30.42 = 31 days (approx.)	$= \frac{365}{12.73}$ = 28.67 = 29 days (approx.)
4. Stock Turnover Ratio	$= \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$	$= \frac{5,00,000}{50,000}$ = 10 Times	$= \frac{5,60,000}{35,000}$ = 16 Times
5. Stock-working Capital Ratio	$= \frac{\text{Closing Stock}}{\text{Working Capital}} \times 100$	$= \frac{50,000}{36,000} \times 100$	$= \frac{20,000}{40,000} \times 100$
Working Capital	= Current Assets – C.L	= 138.89%	= 50%

**Note:** While calculating stock Turnover Ratio, Average Stock is Taken. However opening stock of 1990 is not given, closing stock is taken. Hence, for 1991 closing stock is to be taken to maintain equality of the base to be compared.

**Illustration 15:** From the information given below prepare a Balance Sheet in a vertical form suitable for analysis and calculate the following ratio:

- Capital Gearing Ratio
- Proprietary Ratio
- Current Ratio
- Liquid Ratio

	31.12.2014 ₹
Current Account with bank of India	50,000
Land and Building	8,00,000
Advance payments	62,000
Stock	2,73,000
Creditors	4,06,000
Debtors	5,23,000
Bills Receivable	21,000
Plant and Machinery	5,44,000

12% Debenture	2,50,000
Loan from a Director	52,000
Equity share capital	10,00,000
Profit and Loss Account	2,17,000
Trade Investments	20,000
Proposed Dividend	86,000
Advance Tax	1,00,000
Provision for Taxation	2,64,000
Bills payable	18,000
General Reserve	1,00,000

(T.Y. B.Com., Modified MU)

**Solution:****Vertical Balance Sheet**

Particulars	Amount	Amount
<b>Source of Funds</b>		
<b>I. Owners Fund</b>		
(a) Share Capital		
Equity Share Capital	10,00,000	
(b) Add: Reserves & Surplus	1,00,000	
Profit & loss	2,17,000	
(c) Misc. Expenses	–	13,17,000
<b>II. Borrowed Fund</b>		
(a) Secured Loan		
12% Debentures	2,50,000	
(b) Unsecured Loan		
Loan from Directors	52,000	3,02,000
Capital Employed		16,19,000
<b>Application of Funds</b>		
<b>I. Fixed Assets</b>		
Land & Building	8,00,000	
Plant & Machinery	5,44,000	
Investment	20,000	13,64,000
<b>II. Working Capital</b>		
(a) Current Assets		
Advance Payments	62,000	
Bank Balance	50,000	
Debtors	5,23,000	
Bill Receivable	21,000	
Add: Stock	2,73,000	
Add: Prepaid Expenses Adv. tax	1,00,000	
Total Current Asset	10,29,000	
(b) Less: Current Liability		
Creditors	4,06,000	
Proposed Dividend	86,000	
Provision for Tax	2,64,000	
Bill Payable	18,000	
	7,74,000	
∴ Working Capital		2,55,000
		16,19,000



$$1. \text{ Capital Gearing Ratio} = \frac{\text{Borrowed Funds} + \text{Preference Share Capital}}{\text{Equity Holders Funds}} = \frac{3,02,000 + \text{Nil}}{13,17,000 + \text{Nil}} = 0.23$$

$$2. \text{ Proprietary Ratio} = \frac{\text{Proprietors Funds}}{\text{Total Assets}} \times 100$$

$$\text{Total Assets} = \text{Fixed Assets} + \text{Current Assets} = 23,93,000$$

$$\text{Proprietary Ratio} = \frac{13,17,000}{23,93,000} \times 100 = 55.035\%$$

$$3. \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{10,29,000}{7,74,000} = 1.33 : 1$$

$$4. \text{ Liquid Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$\begin{aligned} \text{Quick Assets} &= \text{Current Assets} - \text{Stock} - \text{Prepayment} \\ &= 10,29,000 - 2,73,000 - 1,00,000 - 62,000 = 5,94,000 \end{aligned}$$

$$\begin{aligned} \text{Quick Liabilities} &= \text{Current Liabilities} - \text{Overdraft} - \text{to the extent adv. tax paid} \\ &= 7,74,000 - 1,00,000 = 6,74,000 \end{aligned}$$

$$\therefore \text{ Liquid Ratio} = \frac{5,94,000}{6,74,000} = 0.88 : 1$$

**Illustration 16:** Re-arrange the Balance sheet given below in a vertical form suitable for analysis and calculate the following:

- (i) Current Ratio
- (ii) Liquid Ratio
- (iii) Capital Gearing Ratio
- (iv) Proprietary Ratio

Liabilities	₹	Assets	₹
Preference share capital	2,00,000	Goodwill	30,000
Equity share capital	4,00,000	Building	3,00,000
12% Debentures	3,00,000	Machinery	2,60,000
Bank overdraft	1,14,000	Stock	3,89,000
creditors	78,000	Debtors	4,00,000
Income tax provision	30,000	Prepaid Expenses	5,000
General Reserve	2,00,000	Bank Balance	1,000
	28,000	Preliminary Expenses	25,000
	60,000		
	14,10,000		14,10,000

(T.Y. B.Com., Modified, MU)

**Solution:** In the Books of Vertical Balance Sheet as at \_\_\_\_\_

Particulars	Amount	Amount	Amount
<b>Source of Fund</b>			
<b>(I) Owner's Fund</b>			
(a) Share Capital			
Equity Share Capital	4,00,000		

Preference Share Capital	2,00,000	6,00,000	
(b) Add: Reserves & Surplus			
General Reserve	2,00,000		
Profit & Loss Account	28,000	2,28,000	
(c) Less: Miscellaneous Expenditure & Fictitious Assets			
Preliminary Expenses		25,000	8,03,000
<b>(II) Borrowed Fund</b>			
(a) Secured Loan			
12% Debentures		3,00,000	
(b) Unsecured Loan			
Capital Employed		–	3,00,000
			11,03,000
<b>Application of Fund</b>			
<b>(I) Fixed Assets</b>			
(a) Tangible Assets			
Building	3,00,000		
Machinery	2,60,000	5,60,000	
(b) Intangible Assets			
Goodwill	30,000	30,000	
(c) Capital W.I.P.	–	–	5,90,000
<b>(II) Working Capital</b>			
(a) Current Assets			
Bank	1,000		
Debtors	4,00,000		
Quick Assets	4,01,000		
Add: Stock	3,89,000		
Add: Prepaid Expenses	5,000	7,95,000	
(b) Less: Current Liabilities			
Creditors	78,000		
Income tax provision	30,000		
Proposed Dividend	60,000		
Quick Liabilities	1,68,000		
Add: Bank O/d	1,14,000	2,82,000	
Working Capital			5,13,000
<b>Total Assets</b>			<b>11,03,000</b>

$$(i) \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{7,95,000}{2,82,000} = 2.82 : 1$$

$$(ii) \text{ Liquid Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{4,01,000}{1,68,000} = 2.39 : 1$$

$$(iii) \text{ Capital Gearing Ratio} = \frac{\text{Borrowed Funds} + \text{Preference Share Capital}}{\text{Equity Holders Funds}} = \frac{3,00,000 + 2,00,000}{8,03,000 - 2,00,000}$$

$$= \frac{5,00,000}{6,03,000} = 0.829 : 1$$

$$(iv) \text{ Proprietary Ratio} = \frac{\text{Owners Funds}}{\text{Total Assets}} \times 100$$

$$\text{Total Assets} = \text{Fixed Assets} + \text{Current Assets} = 5,90,000 + \text{Nil} + 7,95,000 = 13,85,000$$

$$\text{Proprietary Ratio} = \frac{8,03,000}{13,85,000} \times 100 = 57.98\%$$

**Illustration 17:** From the following information, calculate inventory turnover ratios.

	₹
Opening Stock:	
Raw Material	12,000
W.I.P	20,000
Finished Goods	30,000
	62,000
Raw Material Purchased	1,00,000
Direct Wages-paid	70,000
Outstanding	20,000
Production Expenses paid	10,000
Outstanding	10,000
Depreciation	50,000
	2,60,000
Closing Stock:	
Raw Material	24,000
W.I.P	10,000
Finished Goods	20,000
	54,000

(MBA, Modified, MU)

**Solution: Working Note:**

Cost of Goods Sold

Opening Stock	62,000
(+) Purchases	1,00,000
(+) Wages (70,000 + 20,000)	90,000
(+) Production Expenses	70,000
(-) Closing Stock	54,000
Cost of Goods Sold	2,68,000

$$\begin{aligned} \text{(a) Average Stock of Finished Good} &= \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = \frac{30,000 + 20,000}{2} \\ &= \frac{50,000}{2} = 25,000 \end{aligned}$$

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{2,68,000}{25,000} = 10.7 \text{ times}$$

**Illustration 18:** From the following information determine Debtors Turnover and Average Collection period.

	₹
Sales (40% cash sales) during 2013-2014	6,00,000
Debtors as on 1.4.2013.	50,000
Cash collections	3,20,000
Discount	5,000
Bad debt	5,000
Return	10,000

Take 1 Year = 360 days	
------------------------	--

(MBA, Modified)

**Solution:****Debtors Accounts**

	₹		₹
To Opening Balance b/d	50,000	By Cash	3,20,000
To Credit Sales (60% of 6,00,000)	3,60,000	By Discount	5,000
		By Bad Debts	5,000
		By Sales Return	10,000
		By Closing Balance	70,000
	<b>4,10,000</b>		<b>4,10,000</b>

**Debtors Turnover Ratio**

(a) No. of Times =  $\frac{\text{Credit Sales}}{\text{Average Account's Rec.}}$

$$\text{Average Account's Rec.} = \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2} = \frac{50,000 + 70,000}{2}$$

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

$$\text{No. of Times} = \frac{3,60,000}{60,000} = 6 \text{ times}$$

(b) No. of Days =  $\frac{\text{Average Account's Rec.}}{\text{Credit Sales}} \times 360 = \frac{60,000}{3,60,000} \times 360 = 60 \text{ days}$

**Illustration 19:** (a) From the following Profit and Loss A/c calculate three profitability ratio.**Profit and Loss A/c**

	000 ₹	000 ₹
Sales		40,00
Less: Cost of goods sold:		
Raw material consumed	10,00	
Wages	15,00	
Production Expenses	2,50	27,50
		12,50
Less: Indirect Expenses:		
Administrative Expenses		
Selling expenses	2,00	
Distribution Expenses	1,00	
Finance charge	50	
Tax charge	4,00	
Tax provision	2,00	9,50
		3,00
Less: Non-Operational Adjustment		30
Net Profit		2,70

- (b) From the figures given question No. (a) and the following balance sheet, calculate
- Return on Capital Employed
  - EPS
  - Yield (Dividend and Earning).
  - Dividend payout Ratio

**Balance Sheet**

	<b>000 ₹</b>
<b>Liabilities:</b>	
Equity share capital (Share of 100 Each)	8,00
10% Preference Share Capital	1,00
General reserve	50
14% Debentures	1,00
16% Term loan	1,00
Cash Credit	50
S/Creditors	20
Tax provision (Net of Advance Tax)	150
Proposed Dividend:	
Preference	10
Equity	1,60
	<b>15,40</b>
<b>Assets:</b>	
Fixed assets less depreciation	
Investments	8,00
Inventories	3,00
S/Debtors	1,00
Cash and Bank	2,20
Profit and A/C.	20
	<b>15,40</b>

**Note:** Closing Market price of equity shares was ₹ 150.

(T.Y. B.Com., Modified, MU)

**Solution:**

(a) The three profitability ratio's are:

- (i) Gross Profit Ratio
- (ii) Net Profit Ratio
- (iii) Operating Profit Ratio

$$(i) \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \frac{12,50,000}{40,00,000} \times 100 = 31.25\%$$

(ii) Net Profit Ratio

$$= \frac{\text{Net Profit Before Tax}}{\text{Net Sales}} \times 100$$

$$= \frac{\text{Net Profit After Tax}}{\text{Net Sales}} \times 100$$

Here Net Profit After Tax is 2,70,000 and Tax is ₹ 2,00,000

∴ Net Profit Before Tax is 4,70,000

$$= \frac{4,70,000}{40,00,000} \times 100 = 11.75\%$$

$$= \frac{2,70,000}{40,00,000} \times 100 = 6.75\%$$

$$(iii) \text{ Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$$

$$\text{Operating Profit} = \text{Gross Profit} - \text{Operating Expenses} = 12,50,000 - 7,50,000 = 5,00,000$$

$$\text{Operating Profit Ratio} = \frac{5,00,000}{40,00,000} \times 100 = 12.5\%$$

(b)

$$(i) \text{ Return on Capital Employed} = \frac{\text{Net Profit before Interest Tax}}{\text{Capital Employed}} \times 100$$

Net Profit after Tax	2,70,000
(+) Tax	2,00,000
Net Profit before Tax	4,70,000
(+) Interest and Fin. Exp.	4,00,000
Net Profit before Int. Tax	8,70,000
Capital Employed:	
Owns Fund	
Equity Share Capital	8,00,000
(+) Preference Share Capital	1,00,000
(+) General Reserve	50,000
(-) Profit and Loss A/c.	20,000
	9,30,000
Borrowed Fund	
Debentures	2,00,000
(+) Term Loan + Cash Credit	50,000
	11,80,000

$$\text{Return on Capital Employed} = \frac{8,70,000}{11,80,000} \times 100 = 73.73\%$$

$$(ii) \text{ Earnings Per Share} = \frac{\text{Net Profit tax} - \text{Preference Dividend}}{\text{No. of Equity Shares}}$$

$$= \frac{2,70,000 - 10,000}{8,000} = ₹ 32.5 \text{ per share}$$

(iii) Yield (Dividend & Earning)

$$(a) \text{ Dividend Yield Ratio} = \frac{\text{Dividend Per Share}}{\text{Marketing Price Per Share}} \times 100 = \frac{20}{150} = 13.33\%$$

$$(iv) \text{ Dividend payout Ratio} = \frac{\text{Equity Dividend} + \text{Preference Dividend}}{\text{Profit After Tax}} \times 100$$

$$= \frac{1,60,000 + 10,000}{2,70,000} \times 100 = 62.9\%$$

OR

$$= \frac{\text{Dividend per share}}{\text{Earning per share}} = \frac{20}{32.50} = 0.62 : 1$$

**Illustration 20:** From the information given below prepare a comparative statement of suitable management ratios for your Company to indicate its profitability and liquidity positions for the two years and comment on the significance of the ratios:

**Balance Sheet At 31st December**

Particulars	₹ 000' s	
	2013	2014
<b>Fixed Assets:</b>		
Land and Buildings, at Cost	2,733	3,343
<b>Plant and Machinery:</b>		
At cost	862	1,062
Less: Depreciation	(395)	(475)
Net fixed assets	3,200	3,930
<b>Current Assets:</b>		
Stock and Work-in-progress	2,862	3,436
Debtors	2,643	2,574
Balance at Bank	360	123
	5,865	6,133
Less: Current Liabilities	3,107	2,338
Net Current Assets	2,758	3,795
Net Assets Employed	5,958	7,725

**Profit and Loss Account for the year ended 31st December**

	₹ 000's	
	2013	2014
Sales	9,371	12,282
Production Costs	6,091	6,755
Selling and Distribution Costs	1,171	1,696
Administration Cost	1,028	1,228
	8,290	9,679
	1,081	2,603

(T.Y. B.Com., Modified, MU)

**Solution:** In the Book of Comparative Income Statement of the ended 31<sup>st</sup> December

Particulars	2013	2014	Increase	Decrease	% of Change
Sales	9,371	12,282	2,911	-	31.06
Less: Production Costs	6,091	6,755	664	-	10.90
Gross Margin	3,280	5,527	2,247	-	68.51
Less: Operating Expenses					
(i) Administration Cost	1,028	1,228	200	-	19.46
(ii) Selling and Distribution	1,171	1,696	525	-	44.83
(iii) Financial Expenses	-	-	-	-	-
Operating Profit	1,081	2,603	1,522	-	140.80
Add: Non-operating income	-	-	-	-	-
Less: Non-operating expenses	-	-	-	-	-
Net Profit Before Tax	1,081	2,603	1,522	-	140.80
<b>Application of Funds</b>					
(I) Fixed Assets					
Land and Building	2,733	33,43	610	-	22.32

Plant and Machinery (W.D.V.)	467	587	120	-	25.70
(II) Working Capital					
(A) Current Assets					
Banks	360	123	-	237	65.83
Debtors	2,643	2,574	-	69	2.61
Quick Assets	3,003	2,697	-	306	10.19
Add: Stock & W.I.P.	2,862	3,436	574	-	20.06
	5,865	6,133	268	-	4.57
(B) Less: Current Liabilities	3,107	2,338	-	769	24.75
Working Capital	2,758	3,795	1,037	-	37.60
Total Assets (FA + CA – CL)		5,958	7,725	1,767	-29.66

**Profitability Ratios are:**

		2013	2014
(i) Gross Profit Ratio	$= \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$	$= \frac{3,280}{9,371} \times 100$ = 35%	$= \frac{5,527}{12,282} \times 100$ = 45%
(ii) Net Profit Ratio	$= \frac{\text{Net Profit before tax}}{\text{Net Sales}} \times 100$	$= \frac{1,081}{9,371} \times 100$ = 11.54%	$= \frac{2,603}{12,282} \times 100$ = 21.19%
	OR		
Net Profit Ratio	$= \frac{\text{Net Profit after tax}}{\text{Net Sales}} \times 100$		
(iii) Operating Net Profit Ratio	$= \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$	$= \frac{1,081}{9,371} \times 100$ = 11.54%	$= \frac{2,603}{12,282} \times 100$ = 21.19%

**Illustration 21:** The Balance Sheet of Ganga Ltd. as on 31st December, 2014 is as follows:

Liabilities	₹	Assets	₹
Equity share capital	80,000	Goodwill	30,000
Capital Reserve	16,000	Fixed Assets	1,20,000
8% Loan on Mortgage	44,000	Stock	24,000
Unsecured Loans	20,000	Debtors	28,000
Creditors	30,000	Investments (Trade)	8,000
Bank Overdraft	10,000	Cash on Hand	20,000
Taxation : Current	8,000	Misc. Expenditure	10,000
Future	8,000		
Profit and Loss A/c.			
Profit of 2014 after taxation and interest on loan	48,000		
Less: Transfer to Reserve	16,000		
Dividend	8,000		
	24,000		
	2,40,000		2,40,000

The stock on 1.1.2014 was ₹ 40,000. Total sales and Gross profit for the year ended Calculate the following Ratios:

1. Gross Profit Ratio
2. Current Ratio
3. Liquidity Ratio
4. Return on capital employed
5. Stock Turnover Ratio
6. Debtors Ratio



(360 days to be considered for the year).

(T.Y. B.Com./BAF, Modified, MU)

**Solution: In the Book of Ganga Ltd.**

$$(i) \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \frac{1,60,000}{4,80,000} \times 100 = 33.33\%$$

$$(ii) \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{72,000}{56,000} = 1.28 : 1$$

$$(iii) \text{ Liquidity Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{48,000}{46,000} = 1.04 : 1$$

$$\begin{aligned} \text{Quick Liabilities} &= \text{Current Lib.} - \text{Bank O/D} \\ &= 56,000 - 10,000 = 46,000. \end{aligned}$$

$$(iv) \text{ Return on Capital Employed} = \frac{\text{Net Profit Before Interest \& Tax}}{\text{Capital Employed}} \times 100$$

**Note:**

Net Profit after tax 48,000

Add: Provision for tax 8,000

Add: Interest on Mortgage Loan 3,520

(8% on 44,000)

Net Profit before interest tax 59,520

$$\therefore \text{Return on capital employed} = \frac{59,520}{1,74,000} \times 100 = 34.21\%$$

Capital Employed = Total Assets – Current Liabilities

$$(v) \text{ Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$$

**Note:** Cost of goods sold = Net Sales – Gross Profit

$$= 4,80,000 - 1,60,000 = 3,20,000$$

$$\text{Average stock} = \frac{\text{Operating Stock} + \text{Closing Stock}}{2} = \frac{40,000 + 24,000}{2} = \frac{64,000}{2} = 32,000$$

$$\therefore \text{Stock Turnover Ratio} = \frac{3,20,000}{32,000} = 10 \text{ times}$$

**Debtors Turnover Ratio**

$$(a) \text{ No. of Times} = \frac{\text{Credit Sales}}{\text{Average Accounts Rec.}}$$

$$\text{No. of Days} = \frac{\text{Average Accounts Receivable}}{\text{Credit Sales}} \times 100$$

Credit Sales = ₹ 3,60,000 (given) Average Accounts Receivable

$$= \frac{\text{Operating [Debtors + B/R]} + \text{Closing Debtors [Debtors + B/R]}}{2}$$

$$= 28,000 \text{ (since only closing debtors given)}$$

**Debtors Ratio**

$$(a) \text{ No. of Times} = \frac{3,60,000}{28,000} = 12.86 \text{ times}$$

$$(b) \text{ No. of days} = \frac{28,000}{3,60,000} \times 360 = 28 \text{ days approx}$$

**Illustration 22:** Naru Limited and Viru Limited are in competing business. The following information is obtained from their Profit and Loss Accounts for the year ended 31st December, 2014.

	NARU LTD. ₹	VIRU LTD. ₹
Sales	40,00,000	70,00,000
Property income (Rent)	1,20,000	90,000
Material Cost	20,00,000	28,00,000
Wages Cost	10,00,000	21,00,000
Factory Expenses	5,50,000	11,55,000
Property Expenses (Rented property)	60,000	48,000
Office Administration Expenses	1,20,000	1,75,000
Selling and Distribution Expenses	20,000	35,000
Interest @ 10%	10,000	35,000

You are required to:

- (a) Prepare Common Size Statement for each company.
- (b) Compute following ratios for each Company
  - (i) Gross profit Ratio
  - (ii) Operating profit Ratio
  - (iii) Net Profit Ratio.

(T.Y. BAF, Modified, MU)

**Solution:**

**In the Books of Naru Ltd. & Viru Ltd.**

**Common size Statement for the year ended 31<sup>st</sup> December, 2014 of Naru Ltd. & Viru Ltd.**

Particulars	NARU LTD.		VIRU LTD.	
	Amount	% to Net Sales	Amount	% to Net Sales
Net Sales	40,00,000	100	70,00,000	100
Less: Cost of goods sold				
Material cost	20,00,000	50	28,00,000	40
Wages	10,00,000	25	21,00,000	30
Factory Expenses	5,50,000	13.75	11,55,000	16.5
Gross Margin	4,50,000	11.25	9,45,000	13.5
Less: Operating Expenses				
(i) Office Expenses				
Office Administrative expenses	1,20,000	3	1,75,000	2.5
(ii) Selling and Distribution Exp.	20,000	0.5	35,000	.5
(iii) Financial Expenses				
Interest	10,000	0.25	35,000	0.5
Operating Profit	3,00,000	3	90,000	1.29
Add: Non-operating income				

Property Income	1,20,000	3	90,000	1.29
Less: Non-operating expenses				
Property expenses	60,000	1.50	48,000	0.69
Net Profit before tax	3,60,000	9.00	7,42,000	10.6

		NARU	VIRU
(i) Gross Profit Ratio	$= \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$	$= \frac{4,50,000}{40,00,000} \times 100$ $= 11.25\%$	$= \frac{9,45,000}{70,00,000} \times 100$ $= 13.5\%$
(ii) Operating Profit Ratio	$= \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$	$= \frac{3,00,000}{40,00,000} \times 100$ $= 7.5\%$	$= \frac{7,00,000}{70,00,000} \times 100$ $= 10\%$
(iii) Net Profit Ratio	$= \frac{\text{Net Profit Before Tax}}{\text{Net Sales}} \times 100$	$= \frac{3,60,000}{40,00,000} \times 100$ $= 9\%$	$= \frac{7,42,000}{70,00,000} \times 100$ $= 10.6\%$
OR	$\frac{\text{Net Profit After Tax}}{\text{Net Sales}} \times 100$		

**Note:** In this problem, since, tax amount is not given, only the first formula will be applicable.

**Illustration 23:** On 31st March, 2014 the following balances are extracted from books maintained by Raman Services Limited.

Particulars	₹
Share Capital (Equity)	5,00,000
Reserve and Surplus	1,15,000
Building (Cost ₹ 4,20,000)	3,50,000
Machinery (cost ₹ 2,81,100)	2,31,000
Investment (Long Term)	42,000
Stock in Trade	1,68,000
Debtors	1,45,000
Creditors	63,000
Proposed Dividend	40,000
Provision for Income Tax	1,00,000
Advanced Income Tax	80,000
16% Debentures	2,00,000

**Note:** Bank Balance/Overdraft to be ascertained

You are required to:

- Arrange the above balance in Vertical form.
- Compute the following ratios:
  - Current Ratio
  - Liquid Ratio
  - Debt Equity Ratio
  - Stock to Working Capital Ratio.

(T.Y. B.Com./BAF, Modified, MU)

**Solution: Balance Sheet as at 31<sup>ST</sup> March, 2014**

Liabilities	₹	Assets	₹
Share Capital	5,00,000	Building (W.D.V.)	3,50,000
Reserve & Surplus	1,15,000	Machinery (W.D.V.)	2,31,000
16% Debenture	2,00,000	Investment (Long Term)	42,000
Creditors	63,000	Stock	1,68,000
Prop. Dividend	40,000	Debtors	1,45,000
Provision for Tax	1,00,000	Advance Income Tax	80,000
		Bank Balance (Bal.)	2,000
	10,18,000		10,18,000

**In the Book of Raman Services Limited**  
**Vertical Balance Sheet as at 31<sup>st</sup> March, 2014**

Particulars	Amount	Amount	Amount
<b>Source of Fund</b>			
<b>(I) Owner's Fund</b>			
(A) Share Capital		5,00,000	
(B) Add: Reserves & Surplus		1,15,000	
(C) Less: Miscellaneous Expenditure & Fictitious assets		—	6,15,000
<b>(II) Borrowed Fund</b>			
(A) Secured Loan			
16% Debentures		2,00,000	
(B) Unsecured Loan		—	2,00,000
Capital Employed			8,15,000
<b>Application of Funds</b>			
<b>(I) Fixed Assets</b>			
<b>(A) Tangible Assets</b>			
Investments		42,000	
Building	4,20,000		
Less: Depreciation	70,000	3,50,000	
Machinery	2,81,100		
Less: Depreciation	50,000	2,31,000	6,23,000
<b>(II) Working Capital</b>			
<b>(A) Current Assets</b>			
Bank	5,000		
Debtors	1,45,000		
Quick Assets	1,47,000		
Add: Stock	1,68,000		
Add: Advance Income Tax	80,000	3,95,000	
<b>(B) Less: Current Liabilities</b>			
Creditors	63,000		
Proposed Dividend	40,000		
Provision for Income-tax	1,00,000		
Quick Liabilities	2,03,000		
Add: Bank O/d	—	2,03,000	
Working Capital			1,92,000
<b>Total Assets</b>			<b>8,15,000</b>



**Solution: In the Book of RKT Ltd. Vertical Revenue Statement**

	2013		2014		
	₹	₹	₹	₹	₹
<b>SOURCE OF FUNDS:</b>					
Sales					
Less: Cost of goods sold					
Operating Stock	1,80,000			2,00,000	
(+) Purchases	9,00,000			12,00,000	
	10,80,000			14,00,000	
(–) Closing Stock	2,00,000	8,80,000		4,00,000	10,00,000
GROSS PROFIT		3,20,000			5,00,000
Less: Operating Expenses					
(A) Administration Expenses	1,00,000			1,50,000	
(B) Financial Expenses					
Interest on overdraft	15,000		40,000		
Interest on Loans	15,000		35,000		
(C) Depreciation	75,000	1,90,000		1,20,000	3,45,000
NPBT/NET Operating Profit		1,30,000			1,55,000
Less: Provision for tax		65,000			77,500
NET PROFIT AFTER TAX		65,000			77,500

**Vertical Balance Sheet as on .....**

	2013		2014		
<b>SOURCE OF FUNDS</b>					
(A) Shareholders' Fund					
Share capital (Eq. Sh. Capital)	3,00,000		3,00,000		
Pref. Sh. Capital 8%	1,00,000	4,00,000	1,00,000	4,00,000	
Add: Reserves & Surplus		1,90,000		2,07,500	6,07,500
(B) Loan Funds		–			2,00,000
TOTAL SOURCES		5,90,000			8,07,500
(A) Fixed Assets:					
Gross Block					
(–) Depreciation					
Net Block		5,00,000			8,00,000
Investment					
Working Capital					
Total Current Assets:					
Bank	50,000		20,000		
Debtors		2,00,000		2,95,000	
Closing stock	2,00,000	4,50,000	4,00,000	7,15,000	
Less: Total Current Liab.:					
Creditors	1,00,000		2,00,000		
Bank O/D	1,00,000		2,50,000		
Income Tax Prov.	1,20,000		1,97,500		
Proposed Dividend	40,000	3,60,000	60,000	7,07,500	7,500

TOTAL APPLICATIONS		5,90,000		8,07,500
--------------------	--	----------	--	----------

**Working**

	2013	2014
<b>(1) Operating Ratio</b>		
$= \frac{\text{Cost of Goods sold} + \text{Operating Exp.}}{\text{Sales}} \times 100$	$= \frac{8,80,000 + 1,90,000}{12,00,000} \times 100$	$= \frac{10,00,000 + 3,45,000}{15,00,000} \times 100$
	= 89.17%	= 89.67%
<b>(2) Debtors Turnover Ratio</b>		
$= \frac{\text{Credit Sales}}{\text{Debtor} + \text{B/Rec.}}$	$= \frac{12,00,000}{2,00,000} \times 100$	$= \frac{15,00,000}{2,95,000} \times 100$
	= 6 times	= 5 times
In the Second Year Average Debtors may be Taken		
<b>(3) Stock Turnover Ratio</b>		
$= \frac{\text{Cost of Goods sold}}{\text{Average Stock}}$		
$= \text{Average Stock} = \frac{\text{Op. Stock} + \text{Cl. Stock}}{2}$	$= \frac{1,80,000 + 2,00,000}{2}$	$= \frac{2,00,000 + 4,00,000}{2}$
	= 1,90,000	= 3,00,000
	$= \frac{8,80,000}{1,90,000}$	$= \frac{10,00,000}{3,00,000}$
	= 4.63 times = 5 times	= 3.33 times = 3 times
<b>(4) Current Ratio</b> = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$	$= \frac{4,50,000}{3,60,000} = 1.25 : 1$	$= \frac{7,15,000}{7,07,500} = 1.01 : 1$
<b>(5) Liquid Ratio</b> = $\frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$	$= \frac{2,50,000}{2,60,000} = 0.96 : 1$	$= \frac{3,15,000}{4,57,500} = 0.69 : 1$
Liquid Assets = = Current Assets – (Cl. Stock + Prepaid Ex.)	$= 4,50,000 - 2,00,000$ $= 2,50,000$	$= 7,15,000 - 4,00,000$ $= 3,15,000$
Liquid Liabilities = = Current Liabilities – Bank O/D	$= 3,60,000 - 1,00,000$ $= 2,60,000$	$= 7,06,500 - 2,50,000$ $= 4,56,500$

**Illustration 25:** The following are the Balance Sheets of KRISHNA LIMITED for the two years 2013 and 2014.

Particulars	2013 ₹	2014 ₹
<b>Sources of Funds:</b>		
<b>1. Proprietary Funds:</b>		
(A) Equity Share capital	4,00,000	5,00,000
(B) 10% Preference Share Capital	2,00,000	2,00,000
(C) Reserves	2,50,000	3,50,000
	8,50,000	10,50,000
<b>2. Loan Funds:</b>		
13.5% debentures	2,50,000	2,50,000
Capital Employed	11,00,000	13,00,000

<b>Application of Funds:</b>				
1. Fixed Assets				
2. Investments				
3. Current Assets:	<b>2013</b>	<b>2014</b>		
	<b>₹</b>	<b>₹</b>		
(A) Stock	1,00,000	1,20,000		
(B) Debtors	1,50,000	2,00,000		
(C) Cash and Bank	50,000	80,000	3,00,000	4,00,000
Less: Current Liabilities:				
(A) Creditors	90,000	1,20,000		
(B) Bank Overdraft	70,000	80,000	1,60,000	2,00,000
Net Current Assets:			1,40,000	2,00,000
		<b>₹</b>	11,00,000	13,00,000

**Additional Information:**

	<b>2013</b>	<b>2014</b>
	<b>₹</b>	<b>₹</b>
1. Total Sales (Cash sales are 20% of Total Sales)	40,00,000	30,00,000
2. Gross Profit	8,00,000	11,00,000
3. Net Profit before interest and taxes (Rate of tax is 50%)	3,30,000	4,55,000
4. Opening Stock	90,000	1,00,000

From the above information, calculate the following ratios for both the years:

1. Current Ratio
2. Debtors Turnover Ratio
3. Return on Capital Employed
4. Return on Proprietors' funds
5. Proprietary Ratio
6. Stock Turnover Ratio
7. Gross Profit Ratio
8. Net Profit (after tax) Ratio

(T.Y. B.Com./BAF, Modified, MU)

**Solution:**

	<b>2013</b>	<b>2014</b>
<b>(1) Current Ratio</b>		
$= \frac{\text{Current Assets}}{\text{Current Liabilities}}$	$= \frac{3,00,000}{1,60,000} = 1.875 : 1$	$= \frac{4,00,000}{2,00,000} = 2 : 1$
<b>(2) Debtors Turnover Ratio</b>		
$= \frac{\text{Credit Sales}}{\text{B/Rec. + Drs.}}$	$= \frac{24,00,000}{1,50,000} = 16 \text{ times}$	$= \frac{32,00,000}{2,00,000} = 16 \text{ times}$
<b>(3) Return on capital Employed</b>		
$= \frac{\text{Net Profit Before Tax \& Int.}}{\text{Capital Employed}} \times 100$	$= \frac{3,30,000}{11,00,000} \times 100 = 30\%$	$= \frac{4,55,000}{33,00,000} \times 100 = 35\%$
<b>(4) Return on Proprietor's Fund</b>		



$= \frac{\text{Net Profit After Tax}}{\text{Shareholders' Fund}} \times 100$	$= \frac{1,48,125}{8,50,000} \times 100 = 17.43\%$	$= \frac{2,10,625}{10,50,000} \times 100 = 20.06\%$
<b>(5) Proprietary Ratio</b>		
$= \frac{\text{Shareholders' Fund}}{\text{Total Assets}} \times 100$	$= \frac{8,50,125}{12,60,000} \times 100 = 67.46\%$	$= \frac{10,50,000}{15,00,000} \times 100 = 70\%$
<b>(6) Stock Turnover Ratio</b>		
$= \frac{\text{Cost of goods sold}}{\text{Average stock}}$	$= \frac{22,00,000}{95,000} = 23.16 \text{ times}$	$= \frac{29,00,000}{1,10,000} = 26.3 \text{ times}$
$\text{Average Stock} = \frac{\text{Op. Stock} + \text{Cl. Stock}}{2}$	$= \frac{90,000 + 1,00,000}{2} = 95,000$	$= \frac{1,00,000 + 1,20,000}{2} = 1,00,000$
<b>(7) Gross Profit Ratio</b>		
$= \frac{\text{Gross Profit}}{\text{Sales}} \times 100$	$= \frac{8,00,000}{30,00,000} \times 100 = 26.67\%$	$= \frac{11,00,000}{40,00,000} \times 100 = 27.5\%$
<b>(8) Net Profit After Tax Ratio</b>		
$= \frac{\text{Net Profit After Tax}}{\text{Sales}} \times 100$	$= \frac{1,48,125}{30,00,000} \times 100 = 4.94\%$	$= \frac{2,10,625}{40,00,000} \times 100 = 5.27\%$

**Illustration 26:** You have been supplied financial information for the KAVERI LTD. And its industry average ratios. Calculate the indicated accounting ratios and make brief comment on each.

**Balance Sheet as on 31st March, 2014**

Liabilities	₹	Assets	₹
Equity share Capital, ₹ 10 each	20,00,000	Land and Building	19,00,000
12% preference share capital	6,00,000	Machinery	6,00,000
Retained earnings	3,00,000	Furniture	50,000
15% debentures	5,00,000	Stock	7,50,000
Public fixed deposits	1,00,000	Debtors	6,00,000
Creditors	5,00,000	Cash and Bank	1,50,000
Bills Payable	80,000	Other current assets	1,00,000
Unpaid expenses	20,000	Preliminary expenses	50,000
Bank overdraft	1,00,000		
	42,00,000		42,00,000

**Statement of profit for the year ended on 31st March, 2014**

	₹	₹
Total Sales (Out of which 90% are Credit Sales)		48,00,000
Less: Cost of goods sold	28,80,000	
Operating expenses	7,80,000	36,60,000
Net profit		11,40,000
Less: Taxes @ 50%		5,70,000
		5,70,000

Stock in the beginning of the year was ₹ 5,50,000

**Industry's Average**

- |                   |     |
|-------------------|-----|
| 1. Current ratio  | 2.4 |
| 2. Stock turnover | 4   |

- |  |         |
|--|---------|
| 3. Debtor's ratio (360 days to the taken for the year) | 60 days |
| 4. Debt-equity ratio                                   | 0.4:1   |
| 5. Net profit ratio                                    | 72%     |
| 6. Rate of return of proprietors' fund.                | 10.5%   |
| 7. Rate of return of proprietors' fund.                |         |

(CA/CMA Modified)

**Solution: In the Book of Kaveri Ltd. Vertical Balance as on 31<sup>st</sup> March, 2014**

Particulars	Amount	Amount	Amount
<b>SOURCES OF FUNDS</b>			
(A) Shareholder's Fund			
Share Capital			
Equity Share Capital	20,00,000		
12% Preference Share Capital	6,00,000	26,00,000	
<i>Add:</i> Reserves & Surplus		3,00,000	
Retained Earnings		29,00,000	
<i>Less:</i> Miscellaneous Expenses			
Preliminary Expenses		50,000	28,50,000
(B) Loan Funds			
Secured Loans - 15% Debentures		5,00,000	
Unsecured Loans - Public fixed deposits		1,00,000	6,00,000
<b>TOTAL SOURCES</b>			<b>34,50,000</b>
<b>APPLICATION OF FUNDS</b>			
(A) Fixed Assets			
Gross Block		25,50,000	
<i>Less:</i> Depreciation		—	
Net Block			25,50,000
(B) Investment			Nil
(C) Working Capital			
Total Current Assets			
Stock	7,50,000		
Debtors	6,00,000		
Cash & Bank	1,50,000		
Other current Assets	1,00,000	16,00,000	
<i>Less:</i> Total Current Liabilities			
Creditors	5,00,000		
Bills payable	80,000		
Unpaid Expenses	20,000		
Bank overdraft	1,00,000	7,00,000	9,00,000
<b>Total Applications</b>			<b>34,50,000</b>

**Working Note:**

Gross Block	
Land & Building	19,00,000
Machinery	6,00,000
Furniture	50,000
	<u>25,50,000</u>

1. Current Ratio =  $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{16,00,000}{7,00,000} = 8.28 : 1$
2. Stock Turnover Ratio =  $\frac{\text{Cost of goods sold}}{\text{Average Stock}}$   

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = \frac{5,50,000 + 7,50,000}{2} = \frac{13,00,000}{2} = 6,50,000$$

$$\text{Stock Turnover Ratio} = \frac{28,80,000}{6,50,000} = 4.43 \text{ times}$$
3. Debtors' Ratio =  $\frac{\text{Debtors} + \text{B/Rec.}}{\text{Credit Sales}} \times 360 = \frac{6,00,000}{43,20,000} \times 360 = 49.99 = 50 \text{ days.}$
4. Debt - Equity Ratio =  $\frac{\text{Loan Funds}}{\text{Shareholders' Fund}} = \frac{6,00,000}{28,50,000} = 0.21 : 1$
5. Proprietary Ratio =  $\frac{\text{Shareholders Funds}}{\text{Total Assets}} \times 100 = \frac{28,50,000}{41,50,000} \times 100 = 68.67\%$
6. Net Profit Ratio =  $\frac{\text{Net Profit After Tax}}{\text{Sales}} \times 100 = \frac{5,70,000}{48,00,000} \times 100 = 11.87\%$
7. Rate of Return of Proprietor's Funds =  $\frac{\text{Net Profit After Tax}}{\text{Shareholders' Fund}} \times 100 = \frac{5,70,000}{28,50,000} \times 100 = 20\%$

Particulars	Industry Ratio	K Ltd.
(1) Current Ratio	2.4:1	2.28:1
(2) Stock Turnover	4 times	4.43 times
(3) Average collection period	60 days	50 days
(4) Debt/Equity Ratio	40%	21%
(5) Proprietary Ratio	72%	68.67%
(6) Net Profit Ratio (NPAT)	10.5%	11.87%
(7) Rate of return of proprietor's fund	—	20%

Standard Ratio for the industry on given in the problems and actual ratios of K Ltd. we have calculated it is necessary to compare term with each other.

### 1. Current Ratio

Standard Ratio available for this 2.4:1, whereas actual Ratios of K Ltd. is 2.28:1 which is short by 0.12. It is necessary for the company to improve its financial position in respect of current liabilities.

### 2. Stock Turnover Ratio

Appropriately Actual Ratio is equal to the standard Ratio. It is more by 0.43 which includes better position of the company.

### 3. Average collection period

Recovery from the debtors is to be made within a period of 60% days but K Ltd. is able to recover amount from debtors within 50 days which indicated efficiency of its credit department.

#### 4. Debit Equity Ratio

It indicate proportion in between own funds and loan funds for every ₹ 100/- as ₹ 40. But K Ltd. having loan funds only of ₹ 21. It means company can utilise more outside funds and can expand the business.

**Illustration 27:** The summarised final final accounts of two companies are as follows:

Liabilities	X Ltd.	Y Ltd.	Assets	X Ltd.	Y Ltd.
Share Capital	88,000	88,000	Fixed Assets	1,21,000	96,800
Reserves	42,900	35,200	Current Assets	1,25,400	1,03,400
8% Debentures	22,000	22,000	Less: Current Liabilities	93,500	31,900
	55,000	48,400			
	1,52,900	1,45,200		1,52,900	1,45,200

#### Revenue Statement for the year

Income	X Ltd. ₹	Y Ltd. ₹
Sales	3,30,000	2,64,000
Less: Cost of Sales	2,37,600	1,98,000
Gross Profit	92,400	66,000
Operating Expenses	63,800	44,000
Net profit before Tax	28,600	22,000
Tax	12,100	9,240
Profit after Tax	16,500	12,760
Dividend	8,800	6,600
Retained Earning	7,700	6,160

You are required to calculate the following ratios and comment

1. Proprietary Ratio
2. Capital gearing ratio.
3. Gross profit ratio
4. Operating ratio
5. Return on total resources ratio
6. Return on proprietors equity ratio
7. Expenses ratio
8. Net profit ratio.

(T.Y. B.Com./BAF, Modified, MU)

**Solution:**

$$(i) \text{ Proprietary Ratio} = \frac{\text{Share Holders Funds}}{\text{Total Assets}} \times 100$$

$$= \frac{\text{Equity Share Capital} + \text{Preference Capital} + \text{R \& S - ME}}{\text{FA} + \text{CA}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{88,000 + 42,900 - \text{Nil}}{1,21,000 + 1,25,400} \times 100 = \frac{1,30,900}{2,46,400} \times 100 = 53.13\%$$

$$\text{For 'Y' Ltd.} = \frac{88,000 + 35,200 - \text{Nil}}{96,800 + 1,03,400} \times 100 = \frac{1,23,200}{2,00,200} \times 100 = 61.54\%$$

$$(ii) \text{ Capital Gearing Ratio} = \frac{\text{Long Term Borrowing} + \text{Preference Capital}}{\text{Shareholders Fund}}$$

$$\text{For 'X' Ltd.} = \frac{22,000}{1,30,900} = 0.17 : 1$$

$$\text{For 'Y' Ltd.} = \frac{22,000}{1,23,200} = 0.18 : 1$$

$$\text{(iii) Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{92,400}{3,30,900} \times 100 = 28\%$$

$$\text{For 'Y' Ltd.} = \frac{66,000}{2,64,000} \times 100 = 25\%$$

$$\text{(iv) Operating Ratio} = \frac{\text{COGS} + \text{Other Op. Expenses}}{\text{Sales}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{2,37,600 + 63,800}{3,30,000} \times 100 = \frac{3,01,400}{3,30,000} \times 100 = 91.33\%$$

$$\text{For 'Y' Ltd.} = \frac{1,98,000 + 44,000}{2,64,000} \times 100 = \frac{2,42,000}{2,64,000} \times 100 = 91.67\%$$

$$\begin{aligned} \text{(v) Return on Total Resources Ratio} &= \frac{\text{Net Profit Before Tax Before Interest}}{\text{Total Assets}} \times 100 \\ &= \frac{\text{Net Profit Before Tax + Interest}}{\text{Total Assets}} \times 100 \end{aligned}$$

$$\text{For 'X' Ltd.} = \frac{28,600 + 1,760}{2,46,400} \times 100 = \frac{30,360}{2,46,400} \times 100 = 12.32\%$$

$$\text{For 'Y' Ltd.} = \frac{22,000 + 1,760}{2,00,200} \times 100 = \frac{23,760}{2,00,200} \times 100 = 11.87\%$$

$$\text{(vi) Return on Prop. Equity Ratio} = \frac{\text{Net Profit A. Tax – Preference Share Dividend}}{\text{Equity Share Capital + Reserves \& Surplus}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{16,500 - \text{Nil}}{1,23,200} \times 100 = 12.61\%$$

$$\text{For 'Y' Ltd.} = \frac{12,760 - \text{Nil}}{1,23,200} \times 100 = 10.36\%$$

$$\text{(vii) Expenses Ratio} = \frac{\text{Operating Expenses}}{\text{Sales}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{63,800}{3,30,000} \times 100 = 19.33\%$$

$$\text{For 'Y' Ltd.} = \frac{44,000}{2,64,000} \times 100 = 16.67\%$$

$$\text{(viii) (a) Net Profit Ratio} = \frac{\text{Net Profit before Tax}}{\text{Sales}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{28,600}{3,30,000} \times 100 = 8.67\%$$

$$\text{For 'Y' Ltd.} = \frac{22,000}{2,64,000} \times 100 = 8.33\%$$

$$(b) \quad \frac{\text{Net Profit after Tax}}{\text{Sales}} \times 100$$

$$\text{For 'X' Ltd.} = \frac{16,500}{3,30,000} \times 100 = 5\%$$

$$\text{For 'Y' Ltd.} = \frac{13,760}{2,64,000} \times 100 = 4.83\%$$

**Illustration 28:** Comment on the position of Commentry Ltd. from the following: Profit and Loss Accounts and balance sheet after calculating stated ratios:

**Balance sheet**

Liabilities	31.03.14 ₹	31.03.13 ₹	Assets	31.03.14 ₹	31.03.13 ₹
Capital of ₹ 10 each	70,000	70,000	Fixed Assets	90,000	92,000
Reserves	80,000	68,000	Current Assets	1,10,000	1,12,000
Secured Loans	22,000	24,000	Loan and Advances	52,000	40,000
Current Liabilities	26,000	30,000			
Provisions	54,000	52,000			
	2,52,000	2,44,000		2,52,000	2,44,000

**Profit and Loss A/c. for the year ended**

	31.03.14 ₹	31.03.13 ₹		31.03.14 ₹	31.03.13 ₹
Opening Stock	44,000	40,000	Sales	2,10,000	2,00,000
Purchases	84,000	72,000	Closing Stock	46,000	44,000
Wages	40,000	36,000			
Factory Expenses	32,000	28,000			
Administrative	8,000	6,000			
Selling Expenses	6,000	10,000			
Managerial Remuneration	2,000	2,000			
Transfer to Reserve	2,000	2,000			
Income Tax	22,000	24,000			
Proposed Dividend	6,000	8,000			
Balance C/fd.	10,000	16,000			
	2,56,000	2,44,000		2,56,000	2,44,000

- |                                    |                      |
|------------------------------------|----------------------|
| 1. Current Ratio                   | 2. Proprietary ratio |
| 3. Debt. Equity ratio              | 4. Earning per share |
| 5. Stock working capital ratio     | 6. Liquid ratio      |
| 7. Cost of sales to sales          | 8. Administrative    |
| 9. Selling expenses to sales ratio |                      |

(T.Y. B.Com., Modified, MU)

**Solution: Vertical Balance as on 31.3.13 and 31.3.14**

Particulars	31.3.2013			31.3.2014		
	Amount	Amount	Amount	Amount	Amount	Amount
<b>(I) Source of Funds</b>						
(1) Shareholders Fund						
(a) Share Capital		70,000			70,000	
(b) Reserve & Surplus		68,000	1,38,000		80,000	1,50,000
(2) Loan/Borrow Funds						
(a) Secured Loan		24,000			22,000	
(b) Unsecured Loan		Nil	24,000		Nil	22,000
<b>TOTAL</b>			1,62,000			1,72,000
<b>(II) Application of Funds</b>						
(1) Fixed Assets			92,000			90,000
(2) Current Assets, Loan & Adv.						
Current Assets	1,12,000			1,10,000		
Loan & Adv.	40,000	1,52,000		52,000	1,62,000	
<i>Less: Current Liability &amp; Provisions</i>						
Current Liability	30,000			26,000		
Provisions	52,000	(-)82,000		54,000	80,000	
<b>∴ Working Capital</b>			70,000			82,000
<b>TOTAL</b>			1,62,000			1,72,000

**Vertical Income Statement 31.3.2013 and 31.3.2014**

Particulars	31.3.13			31.3.14		
	Amount	Amount	Amount	Amount	Amount	Amount
<b>Net Sales</b>		2,00,000			2,10,000	
<i>Less: Cost of Goods sold</i>						
<b>Raw Material Consumed</b>						
Operating Stock	40,000			44,000		
(+) Purchases	72,000			84,000		
(-) Closing Stock	(-)44,000	68,000		(-)46,000	82,000	
(+) Wages		36,000			40,000	
(+) Factory Expenses		28,000	1,32,000		32,000	(-)1,54,000
<b>Gross Profit</b>			68,000			56,000
<i>Less: Operating Expenses</i>						
(1) Administrative Expenses						
Administrative	6,000			8,000		
Man. Remuneration	2,000	8,000		2,000	10,000	
(2) Selling Expenses		10,000			6,000	
(3) Finance Expenses		Nil			Nil	
(4) Depreciation		Nil	18,000		Nil	(-)16,000
Operating Net Profit			50,000			40,000
<i>Add: Non-operating Income</i>			—			Nil
<i>Less: Non-operating Expenses</i>			—			Nil
Net Profit Before Tax			50,000			40,000
<i>Less: Provisions for Tax</i>			(-)24,000			22,000
Net Profit After Tax			26,000			18,000

Balance of Pr. B/F(Prv. years)		—		16,000
Add: Net Profit of Current year		26,000		18,000
Amount available for Appl				34,000
Less: Appropriations Tr. to Res.	2,000		2,000	34,000
Proposed Dividend	8,000	(-)10,000	6,000	(-)8,000
Balance c/f		16,000		26,000

### Ratios

$$1. \text{ Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liability}}$$

$$\text{For 2013} = \frac{1,52,000}{82,000} = 1.85 : 1$$

$$\text{For 2015} = \frac{1,62,000}{82,000} = 2.03 : 1$$

$$2. \text{ Proprietary Ratio} = \frac{\text{Share holder Fund}}{\text{Total Assets}} \times 100$$

$$= \frac{\text{Eq.Sh.Cap (+) Pref.Sh.Cap. (+) Rds (-) Me}}{\text{F.A. (+) C.A.}} \times 100$$

$$\text{For 2013} = \frac{1,38,000}{2,44,000} \times 100 = 56.56\%$$

$$\text{For 2014} = \frac{1,50,000}{2,52,000} \times 100 = 59.52\%$$

$$3. \text{ Debt Eq. Ratio} = \frac{\text{Long Term Borrowing}}{\text{Shareholders Fund}}$$

$$\text{For 2013} = \frac{24,000}{1,38,000} = 0.17 : 1$$

$$\text{For 2014} = \frac{22,000}{1,50,000} = 0.15 : 1$$

$$4. \text{ Earning per Share} = \frac{\text{Net Profit after Tax (-) Pref. Share Dividend}}{\text{No. of Equity Share}}$$

$$\text{For 2013} = \frac{26,000 - \text{Nil}}{7,000} = ₹ 3.71$$

$$\text{For 2014} = \frac{18,000 - \text{Nil}}{7,000} = ₹ 2.57$$

$$5. \text{ Stock Working Capital Ratio} = \frac{\text{Closing Stock}}{\text{Working Capital}} \times 100$$

$$\text{For 2013} = \frac{44,000}{70,000} \times 100 = 62.86\%$$

$$\text{For 2014} = \frac{46,000}{82,000} \times 100 = 56.1\%$$



6. Liquid Ratio =  $\frac{\text{CA (-) Stock (-) Prepaid Expns.}}{\text{CL (-) Bank o/d}}$
- For 2013 =  $\frac{1,52,000 (-) 44,000}{82,000 (-) \text{Nil}} = \frac{1,08,000}{82,000} = 1.32 : 1$
- For 2014 =  $\frac{1,62,000 (-) 46,000}{80,000 (-) \text{Nil}} = \frac{1,16,000}{80,000} = 1.45 : 1$
7. Cost of Sales to Sales Ratio (Op. Ratio) =  $\frac{\text{COGS}}{\text{Sales}} \times 100$
- For 2013 =  $\frac{1,32,000}{2,00,000} \times 100 = 66\%$
- For 2014 =  $\frac{1,54,000}{2,10,000} \times 100 = 73.3\%$
8. Administrative Expenses to Sales Ratio =  $\frac{\text{Administrative Expenses}}{\text{Sales}} \times 100$
- For 2013 =  $\frac{8,000}{2,00,000} \times 100 = 4\%$
- For 2014 =  $\frac{10,000}{2,10,000} \times 100 = 4.76\%$
9. Selling Expenses to Sales Ratio =  $\frac{\text{Selling Expenses}}{\text{Sales}} \times 100$
- For 2013 =  $\frac{10,000}{2,00,000} \times 100 = 5\%$
- For 2014 =  $\frac{6,000}{2,10,000} \times 100 = 2.86\%$

## Exercise

### Answer in One Sentence:

1. What is ratio?
2. What is the objective of ratio analysis?
3. What is a current ratio?
4. What is quick ratio?
5. What is proprietary ratio?
6. What is stock working capital ratio?
7. What is capital gearing ?
8. What is debt equity ratio?
9. What is a gross profit ratio?
10. What is operating ratio?
11. What is net profit ratio?
12. What is stock turn over ratio?

13. What is return on capital?
14. What is a earning per share?
15. What is a price earning ratio?
16. What is debt service ratio?
17. What is collection period?
18. What is a creditors turn over?
19. What is the purpose of quick ratio?
20. What is the purpose of current ratio?
21. What Is the purpose of gross profit?
22. What is the importance of stock turn over ratio?
23. What is the purpose of stock working capital ratio?

**Fill in the Blanks**

1. \_\_\_\_\_ is a proportion between two figures.
2. One figure is divided by another figure to get \_\_\_\_\_ ratio.
3. Turn over ratios are expressed in \_\_\_\_\_.
4. Balance sheet ratio is a ratio between two figures from \_\_\_\_\_.
5. Combined ratio is a ratio between one figure from \_\_\_\_\_ and another figure from \_\_\_\_\_.
6. Current Ratio = \_\_\_\_\_.
7. Current Ratio shows \_\_\_\_\_ financial position.
8. Liquid ratio is a relationship between Liquid assets and \_\_\_\_\_.
9. \_\_\_\_\_ are near cash assets.
10. Working capital is an excess of current assets over current \_\_\_\_\_.
11. Debt Equity ratio shows proportion between \_\_\_\_\_ and \_\_\_\_\_.
12. Proprietary Ratio = \_\_\_\_\_.
13. Cost of goods sold is divided by average stock to get \_\_\_\_\_.
14. \_\_\_\_\_ shows trading efficiency.
15. \_\_\_\_\_ shows operating efficiency.
16. \_\_\_\_\_ capital employed shows over all profitability of the organisation.
17. Dividend payment is calculated by dividing dividend of share by \_\_\_\_\_.
18. Stock \_\_\_\_\_ shows the speed of movement of stock.
19. \_\_\_\_\_ ratio shows ability of a firm to service?
20. \_\_\_\_\_ shows the period for which amount of sales remains invested in debtors.
21. N.P. ratio is a relationship between N.P. and \_\_\_\_\_.
22. Standard Current Ratio is \_\_\_\_\_.
23. Standard Liquid Ratio is \_\_\_\_\_.
24. Capital Gearing Ratio is also called as \_\_\_\_\_.
25. Operating cost = \_\_\_\_\_.
26. Operating ratio is a relationship between operating profit and \_\_\_\_\_.
27. Quick ratio is also known as \_\_\_\_\_ ratio.

28. Net profit ratio is an indicator of \_\_\_\_\_.
29. Quick Ratio indicates \_\_\_\_\_.
30. Current Ratio indicates \_\_\_\_\_.
31. Standard stock turnover rate is \_\_\_\_\_ times.
32. Stock Turnover indicates \_\_\_\_\_.
33. Proprietary Ratio indicates \_\_\_\_\_.
34. \_\_\_\_\_ Period indicates time taken to collect dues from customers.
35. Marketable securities is \_\_\_\_\_ Assets.
36. Return on capital employed =  $\times 16$ .
37. Stock working capital ratio indicates relationship between stock and \_\_\_\_\_ capital.
38. Standard debt equity ratio is \_\_\_\_\_.
39. Average stock = .
40. Prepaid expenses are not \_\_\_\_\_ assets.

**Ans.:** (1) Ratio; (2) Pure; (3) No of times; (4) Balance Sheet; (5) Balance, Sheet P & L A/c; (6) Current Assets; (7) Short Term; (8) Current Liabilities; (9) Liquid Assets; (10) Current, Liabilities; (11) Long term debt equity; (12) Proprietors Fund; (13) Stock Turn Over; (14) G.P; (15) Operating Ratio; (16) E.P.S.; (17) Turn Over; (18) Turnover; (19) Debt Service; (20) Collection Period; (21) Net Sales; (22) 1:1; (23) 1:1; (24) Capital structure Ratio; (25) Cost of goods sold + operating expenses; (26) Sales; (27) Liquid; (28) Profitability; (29) Liquidity; (30) Short term solvency; (31) 6; (32) Stock Velocity; (33) Financial Stability; (34) Collection; (35) Liquid; (36) NPBIT; (37) Working; (38) 2:1; (39) closing stock; (40) Liquid.

**State whether the following statements are True or False:**

1. Current ratio and acid test ratio are the same.
2. Acid test ratio test the acid.
3. Short-term solvency ratio measures the ability of the firm to pay current liabilities.
4. Equity fund includes debentures.
5. In general low turn over ratio is desirable.
6. It is conceptually correct to decide stock turn over ratio by dividing cost of goods sold by average stock.
7. Excess of sales over cost of goods sold is gross profit.
8. Proprietary ratio examines short term solvency position.
9. Capital gearing ratio shows the speed of capital.
10. Debt equity is a proportion between short term debt and equity.
11. Operating ratio must be higher for measurement of profitability.
12. Net profit ratio is a measure of profitability.
13. Capital employed is equal to fixed assets.
14. Pref. Share capital is a loan capital.
15. Dividend payouts ratio shows dividend paying ability of the firm.
16. Debt service ratio shows the servicing of debt.
17. Debt collection period sows the period taken by debtors to pay.

18. Stock working capital ratio is a relationship between stock and working capital.
19. Activity of the management is judged by debtors turnover ratio.
20. Expense ratio is a relationship between expenses and sales.
21. Higher G.P ratio shows higher trading efficiency of an organization.
22. Liquid ratio indicates liquidity position.
23. Public Deposit is unsecured loans.
24. Interest coverage ratio indicates firm's ability to meet interest.
25. Debt collection period indicates time taken by debtors to settle the Account.
26. Net worth means capital employed.
27. All current liabilities are quick liabilities.
28. Stock is a liquid asset.
29. Prepaid expenses are included in liquid assets.
30. Contingent liabilities appear in the Balance sheet.
31. Overvaluation of closing stock increases gross profit.
32. Overvaluation of opening stock increases gross profit.
33. Under Valuation of closing stock increases gross profit.
34. Current ratio is also known as working capital ratio.
35. Stock Turnover ratio indicates the speed of collection of debt.
36. Bank overdraft is a Liquid Liability.
37. Net Assets means working capital.
38. Preference share capital is a part of own fund.
39. Working capital is life blood of an organisation,
40. Return on Investment shows overall profitability of the organisation.
41. EPS shows managerial efficiency in use of resource.
42. Proprietary ratio indicates short term financial position.
43. Higher Capital gearing shows lower commitment on A/c of interest.
44. Higher stock turnover means higher cost of goods sold.
45. Higher stock working capital ratio indicates higher incidence of inventory in working capital.

**Ans.: True:** (3, 6, 7, 12, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 31, 34, 38, 39, 40, 41, 45,

**False:** (1, 2, 4, 5, 8, 9, 10, 11, 13, 14, 26, 27, 28, 29, 30, 32, 33, 35, 36, 37, 42, 43, 44,

### Match the Columns:

#### (A) Group A

- (a) Ratio
- (b) Current ratio
- (c) Liquid ratio
- (d) Stock working capital
- (e) Proprietary ratio
- (f) Debt equity
- (g) Capital gearing
- (h) Gross profit ratio

#### Group B

- (i) Short-term position
- (ii) Liquidity position
- (iii) Investment of stock in working capital
- (iv) Long-term financial position
- (v) Dependence on debt & equity
- (vi) Gearing of capital structure
- (vii) Trading efficiency
- (viii) % of expenses to sales

- |                                |  |
|--------------------------------|--|
| (i) Expenses Ratio             | (ix) Operating efficiency              |
| (j) Operating ratio            | (x) Profitability position             |
| (k) Net profit ratio           | (xi) Operating profitability           |
| (l) Net operating profit ratio | (xii) Financial stability              |
|                                | (xiii) Proportion bp.tween two figures |
|                                | (xiv) Overall profitability            |

**Ans.:** (a – xiii), (b – i), (c – ii), (d – iii), (e – iv), (f – v), (g – vi), (h – vii), (i – viii), (j – ix), (k – x), (l – xi).

**(B) Group A**

- (a) Return on capital employed
- (b) Return on proprietor's fund
- (c) Return on equity capital
- (d) Dividend payout
- (e) Debt service ratio
- (f) Debtors turnover

**Group B**

- (i) Utilization of proprietors Fund
- (ii) Utilization of equity capital
- (iii) Dividend paying ability
- (iv) Overall profitability
- (v) Debt service ability
- (vi) Efficiency in collection from debtors
- (vii) Promptness in payment

**Ans.:** (a – iv), (b – i), (c – ii), (d – iii), (e – v), (f – vi).

**(C) Group A**

- (a) Liquid ratio.
- (b) Debt equity ratio
- (c) Operating ratio
- (d) Stock working capital ratio
- (e) Net profit ratio
- (f) Dividend payout
- (g) Return on equity capital
- (h) Return on capital employed
- (i) Return on proprietor's fund

**Group B**

- (i) Liquid Assets ÷ current liabilities
- (ii) Operating cost ÷ sales
- (iii) Stock ÷ working capital
- (iv) Long term Debt ÷ Equity
- (v) Dividend per share ÷ EPS
- (vi) NP ÷ capital employed
- (vii) N.P ÷ Proprietor's fund
- (viii) N.P ÷ Equity capital
- (viii) N.P ÷ sales

**Ans.:** (a – i), (b – iv), (c – ii), (d – iii), (e – ix), (f – v), (g – viii), (h – vi), (i – vii).

**Multiple Choice Questions:**

1. A very high current ratio will
 

(a) Increase profitability	(b) Decrease profitability
(c) Not affect profitability	(d) None of the above
2. A very high current ratio may be due too
 

(a) Over valuation of inventory	(b) Inefficiency in collection of debt
(c) Cash & bank balance without investment	(d) All the above
3. Current ratio shows
 

(a) Short-term financial position	(b) Inefficiency in collection of debt
(c) Collection efficiency	(d) Higher profitability
4. One of the following is not an absolute liquid asset
 

(a) Cash balance	(b) Bank Balance
------------------	------------------

- (c) Bills Receivable
- (d) Marketable securities
- 5. Liquid ratio which is equal to the following is favorable
  - (a) 2:1
  - (b) 1:1
  - (c) 1:3
  - (d) 2:5
- 6. Proprietary ratio shows
  - (a) Long-term financial position
  - (b) Short-term financial position
  - (c) Liquidity position
  - (d) All of the above
- 7. Higher proprietary ratio shows that
  - (a) Small portion of assets is financed by the proprietors
  - (b) Larger portion of assets is financed by the proprietors.
  - (c) Longer portion of assets is finance by loans.
  - (d) None of the above
- 8. Higher gearing means
  - (a) Capital structure is high geared
  - (b) Capital structure is low geared
  - (c) Capital structure is optimum
  - (d) None of the above
- 9. High geared company exposes to
  - (a) Business risk
  - (b) Financial risk
  - (c) Inflation risk
  - (d) Interest risk
- 10. Shareholder's equity includes
  - (a) Equity share capital
  - (b) Pref. Share capital
  - (c) Reserves & surplus
  - (d) All of the above
- 11. Fixed Interest bearing funds do not include one of the following:
  - (a) Debenture
  - (b) Long-term investment
  - (c) Pref. Capital
  - (d) Public Deposit
- 12. Loan fund does not include one of the following
  - (a) Debentures
  - (b) Loans
  - (c) Provision for Taxation
  - (d) Public Deposits
- 13. The ratio that indicates ability of the company to pay urgent obligations immediately is
  - (a) Current Ratio
  - (b) Debt equity ratio
  - (c) Liquidity ratio
  - (d) Proprietary ratio
- 14. A low inventory turnover ratio indicates
  - (a) Investment tied up in stock
  - (b) Absolute goods on hand
  - (c) Adverse liquidity
  - (d) All of the above
- 15. Higher turnover ration as compared to indicates that
  - (a) The stock is moving fast in the market
  - (b) Buying and selling policies are effective
  - (c) Inventory management is efficient
  - (d) All of the above
- 16. A longer payment period indicates that
  - (a) Suppliers are prepared to allow longer period of credit

- (b) Operations are being financed by suppliers.
  - (c) Damages credit standing of the company
  - (d) Spoils relationship with suppliers.
17. Longer collection period indicates that
- (a) Debtors are not prompt in payment
  - (b) Creditors are allowing longer period of credit
  - (c) Short-term financial position is good
  - (d) Long-term position is good
18. Higher G.P. Ratio may be due to
- (a) Higher rate of profitability
  - (b) Strict control over cost of goods sold
  - (c) Sales and working capital
  - (d) All of the above
19. Stock working capital ratio is a proportion between
- (a) Closing stock and working capital
  - (b) Opening stock and wrong capital
  - (c) Sales and working capital
  - (d) Sales and current assets
20. One of the reasons responsible for decrease in gross profit ratio is
- (a) Under valuation of closing inventory
  - (b) Overvaluation of closing inventory
  - (c) Excess depreciation on fixed assets
  - (d) Additional interest on loan
21. Return on capital employed is a relationship between
- (a) Net operating profit and loan
  - (b) Net operating profit and capital employed
  - (c) Gross profit and sales
  - (d) Gross profit and total assets.
22. Return on capital employed is also known as:
- (a) Return on total assets
  - (b) Return on fixed assets
  - (c) Return on investment
  - (d) Return on shareholder's fund
23. Debt equity ratio is a relationship between
- (a) Short-term debt and equity
  - (b) Long-term debt and equity
  - (c) Current liabilities and share capital
  - (d) Pref. Capital and equity capital
24. Debt service ratio shows
- (a) Short-term financial position of the company
  - (b) Financial stability
  - (c) Debt servicing ability
  - (d) Liquidity position
25. Dividend payout ratio is a proportion between
- (a) Dividend per share and earning per share
  - (b) Pref. Dividend and equity capital
  - (c) Equity dividend and equity capital
  - (d) Total dividend and capital employed
26. Operating ratio is a proportion between
- (a) Operating cost and purchases
  - (b) Operating cost and sales

- (c) Total cost and sales (d) Net profit and sales
27. Shareholder's equity does not include  
(a) Equity capital (b) Reserve & surplus  
(c) Debentures (d) Preliminary expenses
28. Net profit ratio indicates  
(a) Overall profitability (b) Profitability  
(c) Trading efficiency (d) Liquidity
29. Proprietary ratio is a proportion between  
(a) Proprietary and equity capital (b) Proprietary fund and sales  
(c) Proprietors fund and total assets (d) Proprietors fund and sales
30. Return on proprietors fund indicates  
(a) Utilization of capital employed (b) Utilization of assets  
(c) Utilization of proprietors fund (d) Utilization of total resources
31. Operating performance is best measured by  
(a) Operating profit ratio (b) Return on capital  
(c) Return on fixed assets (d) Return on equity
32. Current ratio is 2.5 working capital is ₹ 60,000 current assets will be.  
(a) ₹ 1,00,000 (b) ₹ 1,40,000  
(c) ₹ 50,000 (d) ₹ 1,25,000
33. Refer to Q. No. 32 current liabilities will be  
(a) ₹ 60,000 (b) ₹ 40,000  
(c) ₹ 75,000 (d) ₹ 40,000
34. G.P. ₹ 1,00,000, Total sales ₹ 5,25,000 sales return ₹ 25,000. G.p. Ratio will be  
(a) 25% (b) 21%  
(c) 20% (d) 28%
35. Proprietary ratio is a  
(a) Balance sheet ratio (b) Revenue statement ratio  
(c) Combined ratio (d) None of the above
36. Debt Equity Ratio is a  
(a) Revenue Statement Ratio (b) Balance sheet ratio  
(c) Combined ratio (d) None of the above
37. Stock working capital ratio is a  
(a) Revenue statement ratio (b) Balance sheet ratio  
(c) Combined ratio (d) None of the above
38. Administrative expense ratio is a  
(a) Revenue statement ratio (b) Balance sheet ratio  
(c) Combined ratio (d) None of the above
39. Net operating profit ratio is a  
(a) Balance sheet ratio (b) Revenue statement ratio  
(c) Combined ratio (d) None of the above



40. Operating ratio is a  
 (a) Balance sheet ratio (b) Revenue statement ratio  
 (c) Combined ratio (d) None of the above
41. ROI is a  
 (a) Balance Sheet ratio (b) Revenue Statement ratio  
 (c) Combined ratio (d) None of the above
42. Creditors Turnover ratio is a  
 (a) Balance sheet ratio (b) Revenue statement ratio  
 (c) Combined ratio (d) None of the above
43. Debtors Turnover ratio is a  
 (a) Balance sheet ratio (b) Revenue statement ratio  
 (c) Combined ratio (d) None of the above
44. Liquidity ratios include  
 (a) Current ratio & Liquidity ratio (b) P/E, EPS, Dividend payout ratio  
 (c) ROI, Net Profit ratio, operating ratio (d) None of the above
45. Profitability Ratios include  
 (a) Debt equity ratio (b) Current ratio  
 (c) Liquid ratio (d) None of the above
46. 2 : 1 is a standard  
 (a) Debt equity ratio (b) Current ratio  
 (c) Liquid ratio (d) None of the above
47. 1 : 1 is a standard  
 (a) Debt equity ratio (b) Current ratio  
 (c) Liquid ratio (d) None of the above

**Ans.:** (1 – b), (2 – d), (3 – a), (4 – c), (5 – b), (6 – a), (7 – b), (8 – a), (9 – b), (10 – d), (11 – b), (12 – c), (13 – c), (14 – d), (15 – d), (16 – a), (17 – a), (18 – d), (19 – a), (20 – a), (21 – b), (22 – c), (23 – b), (24 – c), (25 – a), (26 – b), (27 – c), (28 – b), (29 – c), (30 – c), (31 – a), (32 – a), (33 – b), (34 – c), (35 – a), (36 – b), (37 – b), (38 – a), (39 – b), (40 – b), (41 – c), (42 – c), (43 – c), (44 – a), (45 – b), (46 – b), (47 – c).

## Practical Questions

1. Calculate from the following details furnished by Swaraj Ltd.  
 (a) Current Ratio. (b) Liquid Ratio. (c) Creditors Turnover Ratio and Average Credit Period.  
 (d) Debtors Turnover Ratio and Average Credit Period. (e) Stock turnover Ratio.

	₹
Stock	8,00,000
Debtors	1,70,000
Cash	30,000
Creditors	3,00,000
Bank Overdraft	40,000
Outstanding Expenses	60,000
Total Purchases	9,30,000

Cash Purchases	30,000
Gross Profit Rates	25%

Offer your comments on Short-term Credit position of the company. Comments on individual ratio are not desirable.  
(T.Y. B.Com./BAF, Modified, April 2000)

2. Calculate from the following details furnished by Pardeshi Ltd.:

- (a) Current Ratio (b) Liquid Ratio (c) Credit Turnover Ratio and Average Credit Period  
(d) Debtors Turnover Ratio and Average Credit Period (e) Turnover Ratio

	₹
Stock	1,00,000
Debtors	1,40,000
Cash	60,000
Creditors	1,60,000
Bank Overdraft	30,000
Outstanding Expenses	10,000
Total Purchases	6,60,000
Cash Purchases	20,000
Gross Profit Ratio	33 1/3%

Offer your comments on short term credit position (If the company, comment on individual ratio is not desirable.

(T.Y. B.Com./BAF, Modified, October 2000)

3. Following Financial statements of 'JAY Ltd.' are given to you. Rearrange them into vertical form and compute following ratios:

- (a) Operating ratio (b) Net profit ratio (c) Liquid ratio (d) Proprietary ratio (e) Capital gearing ratio

**Trading and Profit and Loss A/c for the year ended 31.3.2014**

Particulars	Amt. ₹	Particulars	Amt. ₹
To Opening stock	45,000	By Sales	4,00,000
To Purchases less returns	2,20,000	By Closing stock	95,000
To Wages	1,00,000	By Non-operating income	12,000
To Salaries	40,000		
To Office rent	17,000		
To Interest	3,000		
To Non-operating Expenses	2,000		
To Advertisement	6,000		
To Transport on sales	4,000		
To Net profit	70,000		
₹	5,07,000	₹	5,07,000

**Balance Sheet as on 31.3.2014**

Liabilities	Amt. ₹	Assets	Amt. ₹
12% Preference share capital	40,000	Fixed Assets:	
Equity Share Capital	1,90,000	Original Cost	2,30,000
Capital Reserve	15,000	(-) Depreciation	40,000
			1,90,000

General Reserve	45,000	Investments (short-term)	50,000
P & L A/c 15% Debentures	10,000	Stock	95,000
Bank Loan	30,000	Debtors	85,000
Creditors	15,000	Pre-paid Expenses	20,000
Bills payables	70,000		
Bank overdraft	5,000		
	20,000		
	<b>₹ 4,40,000</b>		<b>₹ 4,40,000</b>

4. Following is the Balance Sheet of 'EVER GROWTH LTD', as on 31.3.2014

Liabilities	Amt. ₹	Assets	Amt. ₹
Equity Share Capital	4,50,000	Goodwill	35,000
Share Premium	45,000	Land & Buildings	2,75,000
General Reserve	1,60,500	Plant & Machinery	3,60,800
P & L A/c.	1,28,500	Furniture and Fixtures	1,28,200
12% Debentures	2,60,000	Long term investments	1,75,000
M.S.F.C. Loan	1,50,000	Short term investments	48,500
Bank Overdraft	49,800	Sundry Debtors	1,69,700
Creditors	68,000	Bills receivables	12,500
Bills payables	5,400	Closing stock	98,000
Provisions for tax	35,800	Prepaid Expenses	27,500
Outstanding expenses	17,000	Cash Balance	29,300
		Preliminary Exp.	10,500
	<b>₹ 13,70,000</b>		<b>₹ 13,70,000</b>

You are required to:

- Rearrange the above Balance Sheet in vertical form to show following:
    - Proprietors' funds
    - Borrowed funds
    - Fictitious assets
    - Intangible assets
    - Quick liabilities
    - Working capital
  - Comment on Long-term stability of the company by calculating two relevant ratios.
5. Given below are extracts of Financial Statements of M/s. Kiran Ltd.

Particulars	31-3-2014 ₹
Stock	2,60,000
Debtors	1,00,000
Cash	1,40,000
Bills Receivable	1,00,000
Creditors	1,00,000
Bank Balance (Cr.)	30,000
Outstanding Expenses	10,000
Bills Payable	50,000
Total Purchases	8,00,000
Cash Purchases	2,00,000
Cash Sales	3,00,000
Credit Sales	12,00,000
Credit allowed to Customers	11/2 months
Credit allowed by Suppliers	3 months

From the above find out the following Ratio and give your comment for the year ended 31.3-2001.

- (a) Current Ratio. (b) Liquid Ratio. (c) Debtors Turn Over Ratios and Age of Debtor.  
(d) Creditors Turn Over Ratios and Age of Creditors. **(October-2001)**

9. Following Balance Sheet of Roland Ltd.

Liabilities	Amt. ₹	Assets	Amt. ₹
Equity Share Capital	1,00,000	Cash in Hand	2,000
6% Preference Share Capital	1,00,000	Cash at Bank	10,000
7% Debentures	40,000	Bills Receivable	30,000
8% Public Deposits	20,000	Debtors	70,000
Bank Overdraft	40,000	Stock	40,000
Creditors	60,000	Loose Tools	20,000
Proposed Dividend	10,000	Furniture	30,000
Proposed Expense	7,000	Machinery	1,00,000
Reserves	1,50,000	Land and Building	2,20,000
Provision for Tax	20,000	Goodwill	30,000
Profit and Loss Account	20,000	Preliminary Expenses	10,000
		Cash in Arrears in Equity Shares	5,000
₹	<b>5,67,000</b>	₹	<b>5,67,000</b>

Convert the above Balance Sheet in vertical form and calculate:

- (i) Current Ratio (ii) Quick Ratio (iii) Proprietary Ratio (iv) Capital Gearing Ratio (v) Stock Working Capital Ratio. Given your comments.

6. The following is the Trading and Profit and Loss A/c and Balance Sheet of Sunder Mumbai Ltd.

**Trading and Profit and Loss Account as on 31st March, 2014**

Liabilities	Amount	Assets	Amount
To Opening Stock	10,000	By Sales	1,50,000
To Purchases	55,000	By Closing Stock	15,000
To Wages	20,000		
To Power and Fuel	10,000		
To Gross Profit c/d	70,000		
	1,65,000		1,65,000
To Administration Expenses	15,000	By Gross Profit b/d	70,000
To Interest	3,000	By Rent Received	1,500
To Depreciation on Machinery	5,000		
To Selling Expenses	12,000		
To Loss by Fire	2,000		
To Provision for Tax	14,500		
To Net Profit	20,000		
	71,500		71,500
To Interim Dividend	10,000	By Opening Balance	15,000
To Closing Balance	25,000	By Net Profit	20,000
₹	<b>35,000</b>	₹	<b>35,000</b>

**Balance Sheet as on 31st March, 2014**

Liabilities	₹	Assets	₹
Equity Share Capital	1,00,000	Land and Buildings	50,000
Profit and Loss Ale	25,000	Plant and Machinery	30,000

Creditors	15,000	Furniture	20,000
Secured Loans	10,000	Stock	15,000
Bank Overdraft	25,000	Debtors	15,000
Provision for Tax	5,000	Investments	12,500
Outstanding Expenses	5,000	Cash	17,500
		Goodwill	20,000
		Miscellaneous Expenditure	5,000
₹	<b>1,85,000</b>	₹	<b>1,85,000</b>

Calculate the following ratios after converting above financial statements in vertical form:  
 (a) Inventory Turnover Ratio. (b) Current Ratio. (c) Gross Profit Ratio. (d) Proprietary Ratio.  
 (e) Operating Ratio. (f) Liquid Ratio. **(April-2002)**

12. The following are balance sheets as on 31st March 2014 of two different companies.

Liabilities	Tiny ₹	Giant ₹	Assets	Tiny ₹	Giant ₹
Equity Share Capital	1,000	2,000	Trade Marks & Copy Right	200	500
General Reserve	200	500	Building	500	1,000
Profit & Loss A/c	300	600	Machinery	400	900
Preference Share Capital	400	800	Furniture	10	50
Secured Loan	250	600	Stock	700	1,500
Provision for Income Tax	100	200	Trade Investment	100	150
Bank Overdraft	50	100	Debtors	600	1,400
Creditors	400	1,000	Bills Receivable	100	200
Provision for Doubtful Debts	10	20	Goods with Consignee	10	20
			Share issue Expenses	90	100
₹	<b>2,710</b>	<b>5,820</b>	₹	<b>2,710</b>	<b>5,820</b>

Investment depreciated by 10% which effect is required to be given. Prepare Commonsized Balance Sheet in vertical form. Also compute following ratios and give your comments:

(a) Debt Equity Ratio (b) Stock Working Capital Ratio.

7. The following is the Balance Sheet of Arjun Ltd. as on 31st March 2014.

Liabilities	Amount	Assets	Amount
Equity Share Capital	2,00,000	Building	2,00,000
Preference Share Capital	1,00,000	Machinery	1,00,000
10% Debentures	2,00,000	Intangible Assets	1,00,000
General Reserves	1,50,000	Marketable Investment	50,000
Profit and Loss A/c	1,00,000	Debtors	1,50,000
Bank Overdraft	60,000	Stock	1,10,000
Provision for Tax	80,000	Bank Balance	1,50,000
Creditors	1,20,000	Advance for Goods	1,00,000
		Preliminary Expenses	50,000
₹	<b>10,10,000</b>	₹	<b>10,10,000</b>

Other information for the year ended 31st March, 2014.

Sales ₹ 40,00,000 cost of goods sold was 92.5% of sales. Total operating expenses were ₹ 1,50,000 out of which finance expenses were ₹ 30,000 and balance office expenses and selling expenses were in the ratio of 2:3. Non-operating income was 2.5 times the amount of non-operating expenses, total non-operating expenses were ₹ 20,000 incurred during the year. Income tax provision ₹ 40,000 transferred to general reserve ₹ 40,000. Contingent liabilities on 31st March, 2001 was

₹ 1,50,000 not provided for. Closing Stock on 31st March, 2001 was more than opening stock by ₹ 10,000.

Arrange the Balance Sheets and Profit and Loss A/c. in a vertical form and calculate the following ratios. (a) Current ratio. (b) Liquid ratio. (c) Stock Turnover ratio. (d) Debtors Turnover Ratio and Collection period. Debtors on 1st April, 2000 were ₹ 2,50,000. Assume 360 days in a year. (e) Capital gearing ratio. (f) Proprietary ratio.

(October-2002)

8. Following is the Balance sheets of Bharat Ltd. for the ear ended 31 st December 2013 and 2014.

Liabilities	2013 ₹	2014 ₹	Assets	2013 ₹	2014 ₹
Equity Capital	1,00,000	1,00,000	Fixed Assets (Cost)	1,60,000	2,30,000
8% Pref. Share Capital	—	65,000	Stock	20,000	25,000
Reserves	10,000	15,000	Debtors	50,000	62,500
P & L A/c	7,500	10,000	Bills Receivable	—	30,000
10% Debentures	50,000	75,000	Prepaid Expenses	5,000	6,000
Bank O/D	25,000	25,000	Cash at Bank	21,000	13,000
Creditors	20,000	25,000	Cash in Hand	5,000	15,000
Provision for Taxation	10,000	12,500	Calls in Arrears	4,000	3,000
Proposed Dividend	7,500	12,500	Share Issue Exp.	5,000	10,500
Depreciation Provision	40,000	55,000			
<b>₹</b>	<b>2,70,000</b>	<b>3,95,000</b>	<b>₹</b>	<b>2,70,000</b>	<b>3,95,000</b>

Prepare a comparative Balance Sheet in vertical form and Interpret the same after calculating following ratios: (i) Capital Gearing Ratio (ii) Stock Working Capital Ratio (iii) Liquid Ratio (iv) Debt Equity Ratio.

9. X Ltd and Y Ltd. are in the same line of business. Followings are their Balance Sheets as on 31st Dec., 2002:

**Balance as on 31st December, 2014**

Liabilities	X Ltd. ₹	Y Ltd. ₹	Assets	X Ltd. ₹	Y Ltd. ₹
Equity Share Capital	7,00,000	2,00,000	Land	1,00,000	80,000
Reserve and Surplus	1,00,000	1,00,000	Building	2,50,000	2,00,000
12% Debentures	2,00,000	5,00,000	Plant and Machinery	5,00,000	3,00,000
Creditors	1,20,000	70,000	Debtors	2,10,000	1,10,000
Bills Payable	40,000	20,000	Stock	1,00,000	2,00,000
Proposed Dividend	20,000	20,000	Cash and Bank	55,000	40,000
Provision for Tax	35,000	20,000			
<b>₹</b>	<b>12,15,000</b>	<b>9,30,000</b>	<b>₹</b>	<b>12,15,000</b>	<b>9,30,000</b>

You are required to rearrange the Balance Sheets (in Vertical form) and calculate the following ratios for both the companies and comment thereon (any three):

(a) Proprietary ratio, (b) Capital-Gearing ratio, (c) Current ratio, (d) Stock Working Capital ratio.

(April-2003)

10. (a) Following is the P & L A/c of Saurav-balance Ltd. for the year ended 31st March, 2014. You are required to prepare Vertical Income Statement for the purpose of analysis.

Particulars	₹ in Lacs	Particulars	₹ in Lacs
To Opening Stock	700	By Sales	
To Purchase	900	Cash	520
To Wages	150	Credit	1,500

To Factory Expenses	350		2,020	
To Office Salaries	25	Less: Returns and Allowances	20	2,000
To Office Salaries	39	By Closing Stock		600
To Office Rent	5	By Dividend on investment		10
To Postage and Telegram	6	By Profit on Sale of Furniture		20
To Directors Fee	12			
To Salesman Salaries	18			
To Advertising	20			
To Delivery Expenses	20			
To Debenture Interest	10			
To Depreciation: On Office Furniture	30			
On Plant	20			
On Delivery Van	5			
To Loss on Sale of Van	175			
To income Tax	145			
To Net Profit	145			
<b>Total</b>	<b>2,630</b>	<b>Total</b>		<b>2,630</b>

(b) From the Vertical Income Statement Calculate: (i) Gross Profit Ratio (ii) Operating Cost Ratio including Finance Expenses (iii) Stock Turnover Ratio.

11. "Cosmos India Ltd."

**Balance Sheet as on 31st December, 2014**

Liabilities	₹	Assets	₹
Capital Reserve	1,26,000	Copyright	1,00,000
General Reserve	1,20,000	Cash	21,000
Provision for Tax	50,000	Calls in Arrears	9,575
Commission received in Advance	10,875	Plant and Machinery	4,20,000
15% Debentures	1,60,000	Debtors	3,00,425
12% Bank Loan	40,000	Prepaid Insurance	15,375
6% Preference Share Capital	2,00,000	Land and Building	5,00,000
Equity Share Capital	10,00,000	Fixtures	25,000
Bills Payable	49,125	Furniture	75,000
Profit and Loss A/c	9,000	Preliminary Expenses	18,625
Bank Overdraft	10,740	Goodwill	1,00,000
Share Premium	15,000	Investments (Long-term)	1,75,000
Sundry Creditors	1,89,260	Stock	2,00,700
		Market Investments	19,300
	<b>19,80,000</b>		<b>19,80,000</b>

You are required to rearrange above Balance Sheet in vertical form and compute the following ratios.

(a) Current Ratio. (b) Proprietary Ratio. (c) Capital Gearing Ratio.

(April-2004)

12. Following financial statements are of XYZ Ltd. for 2014

**Trading and Profit and Loss A/c for the year ended 31st March 2014**

Liabilities	₹	Assets	₹
To Opening Stock	70,000	By Sales	16,60,000
To Purchases	15,00,000	By Closing Stock	1,60,000
To Gross Profit	2,50,000		
	18,20,000		18,20,000
To Depreciation	36,000	By Gross Profit	2,50,000

To Other Expenses	74,000	By Commission	10,000
To Tax Provision	40,000		
To Proposed Dividend	16,000		
To Net Profit	94,000		
	<b>2,60,000</b>		<b>2,60,000</b>

**Balance Sheet as at 31st March 2014**

Liabilities	₹	Assets	₹
Share Capital	3,00,000	Cash	48,000
Bank Overdraft	38,000	Stock	1,60,000
Creditors	34,000	Debtors	1,38,400
Provision for Depreciation	54,000	Land and Building	92,000
Provision for Tax	40,000	Machinery	1,28,600
Proposed Dividend	16,000	Goodwill	20,000
Profit & Loss A/c	1,80,000	Loan and Advance	60,000
		Preliminary Expenses	15,000
	<b>6,62,000</b>		<b>6,62,000</b>

Re-arrange the above in a vertical form and also calculate:

(a) Stock Turnover Ratio. (b) Debtors Turnover Ratio. (c) Creditors Turnover Ratio. **(October-2004)**

13. Given below are some of the information of Parekar Ltd. As on 31st March, 2014

	₹
Debtors	30,000
Outstanding Manufacturing Expenses	17,000
Cash Balance	23,000
Bills Payable and Creditors	38,000
Machinery (Imported)	30,000
Income earned but not received	6,000
Bank Overdraft	15,000
Bills Receivable	7,000
Prepaid Travelling Expenses	4,000

Using above data calculate current ratio and liquid ratio and comment on it.

14. Calculate Return on Capital employed and Return on Proprietors Fund from following information:

	₹
Equity Capital	3,00,000
General Reserves	4,00,000
Profit and Loss A/c	1,50,000 (Cr.)
Sundry Creditors	2,00,000
Operating Profit	3,50,00 (Before Interest and Tax)
Long Term Loan	3,50,000 (at 12% p.a. Interest)
Tax Rate is 30%	

15. The following items appear in the financial statements of M Ltd. as on 31st Dec., 2014.



Particulars	₹	Particulars	₹
Cash	45,000	Land and Buildings	8,00,000
Bills Receivable	60,000	Stock	2,75,000
Creditors	4,00,000	Prepaid Expenses	60,000
General Reserve	1,00,000	Debtors	5,00,000
Plant and Machinery	5,50,000	Debentures	3,00,000
Bank Overdraft	50,000	Equity Share Capital	10,00,000
Profit and Loss A/c (Credit)	2,25,000	Proposed Dividend	90,000
Long Term Investments	20,000	Advance Tax	1,00,000
Provision for Tax	2,00,000	Bills Payable	45,000
Preliminary Expenses not yet w/off	25,000	Unclaimed Dividend	25,000

You are required to arrange the above items in the form of vertical (columnar) Balance sheet and determine (a) Current Assets (b) Fixed Assets (c) Current Liabilities (d) Proprietary Funds (e) Quick Assets (f) Quick Liabilities.

16. Following are the Balance Sheet of X Ltd. And A Ltd. As on 31st March, 2014 together with supplementary information for the year ended on that date:

**Balance Sheet as on 31st March, 2014**

Liabilities	X Ltd. ₹	Y Ltd. ₹	Assets	X Ltd. ₹	X Ltd. ₹
Paid up Share Capital	2,00,000	3,50,000	Goodwill	30,000	50,000
Reserves	50,500	60,000	Building	1,20,000	2,40,000
Profit and Loss A/c	12,250	1,02,200	Plant and Machinery	29,000	42,000
Bank Overdraft	11,250	14,800	Stock	66,000	93,000
Sundry Creditors	36,000	58,000	Debtors	85,000	1,75,000
Provisions for Taxation	20,000	15,000			
	<b>3,30,000</b>	<b>6,00,000</b>		<b>3,30,000</b>	<b>6,00,000</b>

**Additional Information:**

	X Ltd.	A Ltd.
Sales for the year	8,40,000	10,50,000
Stock on 31st March, 2003	60,000	1,07,000
Gross Profit	2,10,000	2,50,000

You are required to compute the following ratios of both companies:

- (a) Current Ratio (b) Liquid Ratio (c) Proprietary Ratio Stock Turnover Ratio and (e) Debtors Turnover Ratio in no. of times.

Also give your opinion on short-term and immediate financial solvency. All sales are on credit basis.

17. Classify the following accounts and state whether it is:

- (i) Current assets. (ii) Fixed Assets. (iii) Current Liability. (iv) Long Term Liability. (v) Shareholders Fund. (vi) None of these:

- Delivery truck.
- Accounts payable.
- Bills payable (90 days).
- Delivery expenses.
- Trade mark.
- Short-term investment.
- Income tax payable.
- Debenture redeemable after seven years.

5. Equity Capital.

11. Tsunami relief fund deducted from employee's salary.

6. Prepaid Insurance.

12. Depreciation.

18. From the information given below prepare Balance Sheet in a vertical form, suitable for analysis and calculate the following ratios:

(a) Capital Gearing Ratio. (b) Proprietary Ratio. (c) Current Ratio. (d) Liquid Ratio. (e) Stock of Working Capital.

	₹		₹
Cash at Bank	12,500	Land and Building	2,00,000
Expenses paid in Advance	15,500	Stock	68,250
Creditors	1,01,500	Debtors	1,30,750
Bills Receivable	5,250	Plant and Machinery	1,36,000
125 Debentures	62,500	Loan from Director	1,00,000
Equity Share Capital	2,50,000	(Repayable after three years)	
P & L A/c	54,250		

19. Following is the profit and Loss A/c and Balance Sheet of Adhiraj Ltd.:

**Profit and Loss A/c for the year ended 31st December, 2014**

Particulars	₹	Particulars	₹
To Opening Stock	20,000	By Sales	4,50,000
To Purchases	2,00,000	By Closing Stock	80,000
To Wages	50,000		
To Factory Expenses	70,000		
To G.P.c/d	1,90,000		
	5,30,000		5,30,000
To Administration Expenses	60,000	By Gross Profit b/d	1,90,000
To Selling Expenses	40,000	By Interest Received	5,000
To Interest on Loan	5,000		
To Debenture Interest	8,000		
To Net Profit	82,000		
	1,95,000		1,95,000
To Tax Provision	20,000	By Net Profit	82,000
To Proposed Dividend	20,000		
To Balance Profit	42,000		
	82,000		82,000

**Balance Sheet as on 31st December, 2014**

Liabilities	₹	Liabilities	₹
Equity Share Capital (₹ 10)	2,00,000	Land and Building	1,75,000
9% Preference Share Capital	1,50,000	Machinery	1,50,000
8% Debenture	1,00,000	Furniture	1,00,000
Reserve	50,000	Goodwill	50,000
P/L A/c	30,000	Patents	50,000
Short Term Loan	1,00,000	Vehicles	1,40,000
(Repaid within one year)		Investment	50,000
Bank Overdraft	75,000	Stock	80,000
Sundry Creditors	1,40,000	Debtors	90,000
Bills Payable	30,000	Bills Receivable	30,000
Provision for Tax	20,000		

Proposed Dividend	20,000		
	<b>9,15,000</b>		<b>9,15,000</b>

Market price of equity share is ₹ 7.

Calculate the following ratios:

- (a) Acid Test Ratio. (b) Capital Gearing Ratio (c) Stock Turnover Ratio.  
 (d) Debtors Turnover Ratio (e) Creditors Turnover Ratio. (f) Return on Capital Employed Ratio.  
 (g) Stock Working Capital Ratio. (h) Operating Ratio.

**Note:** Vertical final accounts need not be prepared.

20. Following are the financial statements of two similar companies:

**Balance Sheet as at 31st December, 2014**

Liabilities	X Ltd. ₹	Y Ltd. ₹	Assets	X Ltd. ₹	Y Ltd. ₹
Share Capital			Land and Building	1,400	1,200
Equity Share of Rs. 10 each	4,000	4,000	Plant	4,100	3,200
Revenue Reserve	1,950	1,000	Stock	2,850	2,100
8% Debenture	1,000	1,000	Debtors	2,600	1,900
Trade Creditors	2,800	1,400	Investment (Long Term)	–	300
Other Creditors	250	200	Bank	100	300
Provision for Tax	900	700	Deposits	150	100
Proposed Dividend	300	200			
	<b>11,200</b>	<b>9,100</b>		<b>11,200</b>	<b>9,100</b>

**Income Statement for 2014**

	X Ltd.	Y Ltd.		X Ltd.	Y Ltd.
Cost of Sales	10,800	9,000	Sales	15,000	12,000
Operating Expenses	2,900	2,000			
Taxation	550	410			
Net Profit after Tax	750	590			
	<b>15,000</b>	<b>12,000</b>		<b>15,000</b>	<b>12,000</b>

On the basis of above information. You are required to compute separately the following ratio:

1. Capital Gearing Ratio. 2. Current Ratio. 3. Debtors Turnover Ratio. 4. Return on Proprietary Fund.

Vertical final accounts need not be prepared.

(October-2007)

21. Profit and Loss A/c and Balance Sheet of SIDHARTH LTD. for the year ended 31st March, 2014:

**Dr. Trading, Profit and Loss Account for the year ended 31st March 2014 Cr.**

Particulars	₹	Particulars	₹
To Opening Stock	70,000	By Sales	9,00,000
To Purchases	5,40,000	By Closing Stock	80,000
To Wages	2,14,000		
To Gross Profit c/d	1,56,000		
	<b>9,80,000</b>		<b>9,80,000</b>

To Salaries	26,000	By Gross Profit b/d.	1,56,000
To Rent	5,000	By Interest on Investment	5,000
To Miscellaneous Expenses	15,000		
To Selling Expenses	10,000		
To Depreciation	30,000		
To Interest	5,000		
To Provision for Tax	20,000		
To Net profit c/d	50,000		
	<b>1,61,000</b>		<b>1,61,000</b>

**Balance Sheet as on 31st March, 2014**

<b>Liabilities</b>	<b>₹</b>	<b>Liabilities</b>	<b>₹</b>
Equity Share Capital (₹ 10)	1,50,000	Fixed Assets	1,60,00
8% Preference Share Capital (₹ 100)	1,00,000	(-) Depreciation	30,000
Reserve and Surplus	62,000		1,30,000
10% Debenture	50,000	Investment	1,00,000
Bank Loan (Payable after 5 Years)	40,000	Stock	80,000
Creditors	60,000	Debtors	60,000
Provision for Tax (C.Y.)	20,000	Bills Receivable	50,000
Bank Overdraft	20,000	Cash	85,000
Proposed Pref. Dividend	8,000	Preliminary Expenses	5,000
	<b>5,10,000</b>		<b>5,10,000</b>

Note: Market value of Equity share is ₹ 12 and Dividend paid Equity share is ₹ 2. Calculate the following ratio.

- (a) Acid Test Ratio. (b) Capital Gearing Ratio (c) Operating Ratio (d) Dividend Payout Ratio  
(e) Debt Service Ratio (f) Creditors Turnover Ratio (g) Earning per Share (h) Stock Turnover ratio

**Note:** Vertical final Account need not be prepared.

22. From the following information calculate:

- (a) Return on Capital Employed (b) Debtors turn over ratio (in Times)  
(c) Stock – working capital ratio (d) Current Ratio  
(e) Proprietary ratio (on the basis of Total Fund)

Some of relevant balances as on 31st March, 2014 are given below:

<b>Particulars</b>	<b>₹</b>
Equity share capital (of ₹ 10each)	2,00,000
6% Preference share capital	1,00,000
8% debentures	1,50,000
Debtors	18,000
Creditors	15,000
Cash in hand	20,000
Bills receivable	12,000
Bank Overdraft	8,000
Reserves and Surplus	43,000
Closing Stock	32,500
Provision for Taxation	35,000
Proposed Dividends	10,000

Other information for the year 2013-14:

Particulars	₹
Sales	10,00,000
Cost of Sales	7,50,000
Net profit before Tax	1,00,000

23. Pawan Ltd. Has the following trading and Profit and Loss account for the year ended 31st December 2014 and Balance Sheet as at that date.

**Trading and Profit and Loss account for the year ended 31st December 2014**

Particulars	₹	₹	Particulars	₹	₹
To Opening Stock		3,50,000	By Sales		
To Purchases-Credit		16,50,000	Cash	6,00,000	
To Carriage-Inward		5,00,000	Credit	24,00,000	30,00,000
To Gross Profit c/d		8,00,000	By Closing Stock		3,00,000
<b>Total</b>		<b>33,00,000</b>	<b>Total</b>		<b>33,00,000</b>
To Administrative Expenses		1,92,000	By Gross Profit b/d		8,00,000
To Selling Expense		50,000	By Other Income		18,000
To Depreciation		1,00,000			
To Interest		94,000			
To Income Tax		1,30,000			
To Net Profit c/d		2,52,000			
<b>Total</b>		<b>8,18,000</b>	<b>Total</b>		<b>8,18,000</b>

**Balance Sheet as on 31st December 2014**

Liabilities	₹	Assets	₹	₹
Equity Share Capital (₹ 10)	7,00,000	Plant and Machinery	20,00,000	
10% Preference share capital	4,00,000	Less: Depreciation	5,00,000	15,00,000
Reserve and Surplus	4,00,000	Goodwill		2,80,000
Long term Loan	1,00,000	Stock		3,00,000
Debentures	6,00,000	Debtors		2,00,000
Creditors	1,20,000	Prepaid Expenses		50,000
Bills Payable	40,000	Marketable Securities		1,50,000
Accrued Expenses	40,000	Cash		50,000
Provision for Tax	1,30,000			
<b>Total</b>	<b>25,30,000</b>	<b>Total</b>		<b>25,30,000</b>

The Market Price of the Share of the Company on 31 December 2014 was ₹ 9.25.

Particulars	₹	₹
Reserves at beginning	2,93,000	
Net Profit during the year	2,52,000	5,45,000
Interim Dividend		1,45,000
Reserves at the close of the year		4,00,000

Calculate the following Ratios:

- |  |                              |
|--|------------------------------|
| (a) Return on Proprietors Fund         | (b) Acid test Ration         |
| (c) Inventory Net Current Asset Ration | (d) Capital Gearing Ratio    |
| (e) Debt Service Ratio                 | (f) Creditors Turnover Ratio |
| (g) Opening Ration                     | (h) Stock Turnover Ration.   |

**Note:** No need to convert the statements into vertical form.

(T.Y. BAF/B.Com., Modified, MU)

24. Following are the Balance Sheets of X Ltd. as on 31st March, 2014 and 31st March, 2015.

Liabilities	31-3-2014 ₹	31-3-2015 ₹
Share Capital	4,50,000	6,60,000
Retained Earnings	2,31,000	2,00,000
Provision for Income	84,000	—
Debentures	2,20,000	1,80,000
Accounts Payable	58,000	64,000
Other Current Liabilities	21,000	33,000
<b>Total</b>	<b>10,64,000</b>	<b>11,37,000</b>
Assets		
Building and Equipments	4,50,000	5,00,000
Land	80,000	80,000
Patents	55,000	65,000
Accounts Receivables	54,000	46,000
Inventories	3,00,000	3,12,000
Prepaid Expenses	6,000	4,000
Cash	1,19,000	1,30,000
	<b>10,64,000</b>	<b>11,37,000</b>

Calculate following Ratios for two years and make comparison.

(1) Debt-Equity Ratio (2) Quick Ratio (3) Stock to working capital Ratio (4) Proprietary Ratio.

25. Following is the Profit and Loss Account of Moon Enterprises Ltd. For the year ended 31/03/2014.

Particulars	₹	Particulars		₹
To Opening Stock	4,00,000	By Sales-Credit	1,80,000	
To Purchases	9,80,000	Cash	7,00,000	25,00,000
To Wages	2,90,000	By Closing Stock		6,00,000
To Factory Expenses	1,90,000	By Sale of Scrap		10,000
To office Salaries	1,20,000	By Dividend Received		1,000
To General Administrative Expenses	1,30,000			
To Selling Expenses	1,12,500			
To Depreciation on Machinery	2,50,000			
To Provision for Tax	1,40,500			
To Transfer to General Reserve	2,00,000			
To Net Profit	2,98,000			
<b>Total</b>	<b>31,11,000</b>	<b>Total</b>		<b>31,11,000</b>

You are required to computer the following ratios:

- (1) Gross Profit Ratio (2) Stock-Turnover Ratio.  
(3) Administrative Expenses Ratio. (4) Net Profit before Tax Ratio.

Preparing Revenue Statement in vertical form is not required.

26. Following is the Balance Sheet of Star Products Ltd.

Liabilities	As on 31/03/2014 (₹)	Assets	As on 31/03/2014 (₹)
Equity Share Capital	5,00,000	Fixed Assets	13,00,000
General Reserve	3,00,000	Investments	4,00,000
Securities Premium	25,000	Stock	8,50,000
10% Debentures	7,50,000	Sundry Debtors	5,00,000

Profit and Loss A/c	7,40,000	Prepaid Expenses	40,000
Sundry Creditors	2,30,000	Advance Income tax	78,000
Bank Overdraft	3,95,000	Cash and Bank Balances	62,000
Provision for Taxation	1,80,000	Share issue Expenses	10,000
Proposed Equity dividend	1,50,000	Preliminary Expenses	30,000
<b>Total</b>	<b>32,70,000</b>	<b>Total</b>	<b>32,70,000</b>

You are required to compute the following ratios and give your comments on each ratio with reference to standard ratio:

(1) Current Ratio (2) Liquid Ratio (3) Proprietary Ratio (4) Stock-working Capital Ratio.

Preparing Balance Sheet in Vertical Form is not required.

(T.Y. B.Com., Modified, MU)

27. Following is the Revenue statement of PRODENT LTD:

**Trading, Profit and Loss Account for the year ended 31st March, 2014**

Particulars	₹	Particulars	₹
To Opening Stock	27,150	By Sales	2,55,000
To Purchases	1,63,575	By Closing Stock	42,000
To Carriage Inward	4,275	By Interest Received on Investment	2,700
To Office Expenses	45,000		
To Sales Expenses	13,500		
To Loss on Sale of Fixed Assets	1,200		
To Net profit c/d	45,000		
<b>Total</b>	<b>2,99,700</b>	<b>Total</b>	<b>2,99,700</b>

Calculate the following ratios:

- |                                  |                           |
|----------------------------------|---------------------------|
| (a) Gross Profit Ratio           | (b) Operating Ratio       |
| (c) Stock Turnover Ratio         | (d) Office Expenses Ratio |
| (e) Net Profit before Tax Ratio. |                           |

**Note:** Vertical revenue statement need not be prepared.

(T.Y. B.Com./BAF Modified, MU)

28. M/s. MILIND PRODUCT LTD. furnish you their Profit and Loss Account for year ending 31st March, 2014 and Balance Sheet as on that date.

Dr.	Profit and Loss Account		Cr.
Particulars	₹	Particulars	₹
To Cost of Goods Sold	9,50,000	By Sales	16,00,000
To Opening Expenses	2,57,000		
To Interest	43,000		
To Provision for Taxation	1,75,000		
To Net Profit c/d	1,75,000		
	<b>16,00,000</b>		<b>16,00,000</b>
To Provision for dividend	70,000	By Balance b/f	50,000
To Balance c/f.	1,55,000	By N.P. b/d	1,75,000
<b>Total</b>	<b>2,25,000</b>	<b>Total</b>	<b>2,25,000</b>

**Balance Sheet**

<b>Liabilities</b>	<b>₹</b>	<b>Assets</b>	<b>₹</b>
Equity Share Capital (₹ 10 each)	2,50,000	Land and Building	5,00,000
10% Preference Share Capital (₹ 100 each)	2,00,000	Plant and Machinery	3,50,000
General Reserves	2,50,000	Cop Rights	1,00,000
Profit and Loss A/c	1,55,000	Furniture	2,00,000
Securities Premium	50,000	Stock	3,00,000
9% Debentures	2,00,000	Debtors	2,00,000
Public Deposits	2,50,000	Bills Receivables	1,00,000
Accounts Payable	2,50,000	Cash and Bank	50,000
Bank Overdraft	50,000	Advance Tax	1,00,000
Provision for Taxation	1,75,000		
Provision for Dividend	70,000		
<b>Total</b>	<b>19,00,000</b>	<b>Total</b>	<b>19,00,000</b>

Market price per Equity Share ₹ 25.

Closing Stock is ₹ 1,00,000 less then the opening stock.

**Calculate following Ratios:**

- (a) Opening Ratio (b) Stock Turnover Ratio  
 (c) Stock Working Capital Ratio (d) Dividend Payment Ratio  
 (e) Return on Equity Share Capital.

Vertical statement of account not expected.

**(T.Y. B.Com./BAF Modified, MU)**

29. M/s. Sushant Ltd. presents the following Trading and Profit and Loss A/c for the year ended 31st March, 2014 and Balance Sheet as on that date.

**Trading and Profit and Loss Account for the year ended 31st March, 2014**

<b>Particulars</b>	<b>₹</b>	<b>Particulars</b>	<b>₹</b>
To Opening Stock	2,00,000	By sales	12,00,000
To Purchase	5,00,000	By Closing Stock	4,00,000
To wages	3,00,000		
To Gross Profit c/d	6,00,000		
	<b>16,00,000</b>		<b>16,00,000</b>
To Salaries	1,50,000	By Gross Profit b/d	6,00,000
To Rant	60,000	By Profit on Sale of Investment	5,000
To Commission	12,000	By Interest	15,000
To Advertising Expenses	20,000		
To Interest	83,000		
To Depreciation	30,000		
To Provision for Tax	50,000		
To Net Profit c/d	2,15,000		
	<b>6,20,000</b>		<b>6,20,000</b>
To Proposed Dividend	80,000	By Balance b/f	1,85,000
To Preference Dividend	16,000	By Net Profit b/d	2,15,000
To Balance c/d	3,04,000		
<b>Total</b>	<b>4,00,000</b>	<b>Total</b>	<b>4,00,000</b>



**Balance Sheet as on 31st March, 2014**

<b>Liabilities</b>	<b>₹</b>	<b>Assets</b>	<b>₹</b>
Equity Share Capital (₹ 100)	8,00,000	Land and Building	6,00,000
8% Preference Share Capital	2,00,000	Plant and Machinery	5,50,000
Reserve and Surplus	3,04,000	Furniture	4,00,000
7% Debentures	5,00,000	Investments	2,70,000
Loan from IDBI	6,00,000	Stock	4,00,000
Creditors	1,50,000	Debtors	2,00,000
Bills Payable	50,000	Bills Receivable	1,60,000
Provision for Tax	50,000	Advance Tax	30,000
Dividend Payable	96,000	Prepaid Expenses	40,000
		Cash in Hand	20,000
		Bank Balance	60,000
		Discount on Issue of Debentures	20,000
<b>Total</b>	<b>27,50,000</b>	<b>Total</b>	<b>27,50,000</b>

**Additional Information:**

- (i) The market price of equity shares as on 31st March, 2014 was ₹ 90.  
(ii) Out of total sales, 30% are cash sales and out of total purchases, 50% are credit purchases.

You are required to calculate the following Ratio.

- (i) Return of Capital Ratio  
(ii) Creditors Turnover Ratio  
(iii) Price Earning Ratio  
(iv) Return on Equity Capital  
(v) Debt Service Ratio

Vertical final accounts not expected

(T.Y. B.Com., Modified, MU)

30. The following is the summarizes Profit and Loss A/c of M/s. Hanuman Product Ltd. For the year ending 31st March 2014.

<b>Particulars</b>	<b>₹</b>	<b>Particulars</b>	<b>₹</b>
To Opening Stock	5,00,000	By Sales	50,00,000
To Purchases	25,00,000	By Profit on Sale of Asset	50,000
To Wages	25,000	By Interest	25,000
To Freight and Control	80,000	By Dividend	10,000
To Direct Expenses	75,000	By Closing Stock	7,50,000
To Office Insurance	80,000		
To Office Staff Salary	2,00,000		
To General Managers Salary	50,000		
To Staff Welfare Expenses	40,000		
To Printing and Stationery	5,000		
To Interest	50,000		
To Audit Fees	15,000		
To Office Rent	2,00,000		
To Computer Repairs	75,000		
To Advertising	2,50,000		
To Bad Debts	5,000		
To Travelling	20,000		

To Commission	75,000		
To Depreciation on Furniture	30,000		
To Depreciation on Building	40,000		
To Depreciation on Vehicles	20,000		
To Interim Dividend	50,000		
To Loss on Sale of Assets	1,00,000		
To Income Tax	50,000		
To Net Profit	13,00,000		
<b>Total</b>	<b>58,35,000</b>	<b>Total</b>	<b>58,35,000</b>

Calculate the following Ratio:

- (i) Gross Profit Ratio
- (ii) Operating Ratio
- (iii) Office Expenses Ratio.

(T.Y. BAF Modified, MU)

31. Calculate Stock Turnover Ratio from the following:

Particulars	₹	Particulars	₹
To Opening Stock	1,75,000	By Sales	25,00,000
To Purchases	16,50,000	By Closing Stock	1,50,000
To Wages	3,00,000		
To Carriage Inward	25,000		
To Gross profit	5,00,000		
	<b>26,50,000</b>		<b>26,50,000</b>

32. The following is summarised Profit and Loss Account of BHUSHAN Ltd. for the year ending 31st March, 2014.

Particulars	₹	Particulars	₹
To Opening Stock	2,50,000	By Sales	25,00,000
To Purchases	12,50,000	By Profit on Sale of Asset	25,000
To Wages	12,500	By Interest Received on Investment	12,500
To Freight and Control	40,000	By Dividend Received	5,000
To Factory Expenses	37,500	By Closing Stock	3,75,000
To Office Lighting	40,000		
To Office Staff Salary	1,00,000		
To Directors Fees	25,000		
To Staff Welfare Expenses	20,000		
To Postage and Telegram	2,500		
To Depreciation of Office Computer	15,000		
To Depreciation of Office Building	20,000		
To Interest Paid Loan	25,000		
To Legal Fees	7,500		
To office Rent	1,00,000		
To Computer Repairs	37,500		
To Advertising	1,00,000		
To Trade Fair Expenses	27,500		
To Salesman Travelling Allowance	10,000		
To Salesman Commission	37,500		
To Depreciation on Vehicle	10,000		
To Interim Dividend Paid	25,000		

To Loss on Sale of Asset	50,000		
To General Reserve	25,000		
To Income tax	3,25,000		
To Net Profit	3,25,000		
<b>Total</b>	<b>29,17,500</b>	<b>Total</b>	<b>29,17,500</b>

Calculate following Ratios:

- (i) Gross Profit Ratio
- (ii) Operating Ratio
- (iii) Stock turnover Ratio
- (iv) Selling Expenses Ratio
- (v) Net Operating Profit Ratio.

(T.Y. BAF, Modified, MU)

33. Following is the Balance Sheet of Bills and Happiness Ltd. as at 31<sup>st</sup> March, 2014.

<b>Liabilities</b>	<b>₹</b>	<b>Liabilities</b>	<b>₹</b>
Equity Share Capital	1,00,000	Machinery	2,96,000
General Reserve	70,000	Investment	1,12,000
10% Preference Cap[ital	1,80,000	Stock in Trade	1,01,000
15% Debentures	1,20,000	Bills Receivable	20,000
Trade Payables	1,22,000	Trade Receivable Cash and Bank	49,000
Bank Overdraft	20,000	Profit and Loss A/c	38,000
Provision for Tax	18,000		14,000
<b>Total</b>	<b>6,30,000</b>	<b>Total</b>	<b>6,30,000</b>

Sales for the year ₹ 7,00,000; Gross profit Rate – 25% and opening stock is ₹ 1,09,000. Profit Before Tax for the year ending 31/03/2014 is ₹ 2,10,000.

You are required to compute the following and comment on Current Ratio

- (i) Current Ratio
- (ii) Acid Test Ratio
- (iii) Stock Turnover Ratio
- (iv) Capital Gearing Ratio
- (v) Proprietary Ratio
- (vi) Debt Equity Ratio (Debt/Net worth)
- (vii) Return on Capital Employed

Redrafting the given Balance Sheet in vertical format is not expected.

ॐॐॐॐॐॐ