UNIT IV

Inter Firm Comparison (IFC)

Meaning

Inter-firm comparison means a comparison of two or more similar business units with the objective of finding the competitive position to improve the profitability and productivity of those business units. It is a tool used by the management of a company to compare its operating performance and financial results with those of similar companies engaged in the same industry.

The method by which one firm is compared with other firms particularly when technology, product characteristics, production method and general operating conditions are same in the same industry, the same is known as inter-firm comparison. It would be more significant and meaningful if the performances of the firms are compared with that of the others, belonging to the same group, for a year or for a few years. It is a technique by which one can evaluate the performances, efficiencies, profits and costs of a company with other companies in the industry.

Inter-firm comparison may be made not in the form of absolute figures but in the form of various ratios, usually the figures relate to cost accounting liquidity and profitability as well.

According to Centre for Inter-firm Comparison, established by the British Institute of Management, Inter firm Comparison is concerned with the industrial firm, its success and the part played by the management in achieving it. The end product of a properly conducted inter firm comparison is not a statistical survey but the flash of insight in the mind of meaning director of the firm which has taken part in such an exercise. The results of this give him an instant and vivid picture of how his firm's profitability, its costs, its stock turnover, and other key factors affecting the success of a business compares with other firms in his industry.

Purpose:

The main purpose of inter-firm comparison is to compare the efficiency of one firm with that of other belonging to the same group of industry and helps the management to locate the problems or reasons for such inefficiency and to take the corrective measures for its improvement.

Types of Inter-Firm Comparison

The following are the three main types of Inter-Firm Comparison.

1. Management Ratios
2. Cost Ratios
3. Technical Data.

1. Management Ratios:

The management ratios are those which are linked to sales, profits and assets of a business. These ratios are meant to provide management in a nutshell, a comparative picture of its operating performance, financial result, growth, liquidity etc. compared with those of other firms in the industry or trade. These ratios are worked out on the basis of figures supplied by each member. In the pyramid of ratios the apex ratio is profit related to the capital employed, which takes into account the various factors affecting the business. The ratios worked out are useful to the management to the extent that the comparison reflects the earning capacity, return on capital employed, earnings on fixed assets, liquidity, growth etc. of the business. On the basis of this information, it can act for future improvement.

2. Cost Ratios:

If the management may not be satisfied with the ratios calculated, they would like to go a step further to make inter-firm comparison more meaningful and to find out how they are doing in relation to others as regards the cost of production. As competition becomes keener, cost ratios will assume greater importance for the simple reason that cost reduction becomes a compelling necessity. The members of the Association will, under this type of inter-firm comparison, have to disclose much more information than they will be required to do in case of the advantages of cost ratios comparison will be more marked in the areas where cost reduction is visualised.

3. Technical Data:

This type of comparison will be of special interest to industries working in highly competitive economies. Such comparison will gradually lead to rationalisation of industry. It is visualised that technical comparison will be in the realm of quality of

materials used, their utilisation, process involved, machinery used, and certain other technical aspects of production

Objects of Inter Firm Comparison:

The meaning of IFC can be easily explained by considering the main object of the system. The main purpose of IFC is improvement of efficiency by showing the management of participating firm its present achievements and possible weaknesses. These firms have to contribute their data to the central body which acts as a neutral body. This central body ensures confidence and it gives report regarding comparisons only to participants.

The following are important objectives of inter-firm comparison:

1. IFC analyses costs of different firms with a view to spot out relative efficiency.
2. IFC provides aid to management in enforcing and reviewing budgetary control and standard costing. These techniques enforced in one firm are compared with those in other firms making more efficient use of the same. Inadequacies of standard costing and budgetary control are located by making inter-firm comparisons and remedial measures are introduced.
3. IFC helps to prepare a comprehensive and detailed plan for firms or units to obtain optimum use of human and material resources.
4. The main objection of IFC is the improvement of efficiency and identification of weak points. IFC is a scheme consisting of exchange of information with regard to cost, profit, productivity and efficiency between the participating firms through a central organisation. IFC focuses the remedial measure of a number of problems related to profit, sales and production.

Advantages of Inter-Firm Comparison:

The following are the advantages of inter-firm comparison:

1. Under IFC the weakness of participating firms are revealed and the management will be guided to remedial actions.

2. The firm will come to know the trend of sales, profit and cost of an industry or trade as shown by different ratios. If all firms are suffering from falling sales, it will be indicated by sales to capital or asset employed ratio. When an individual firm compares its own ratio with the ratio of the group, it will see that there are general reduction sales.
3. Management of participating firm are provided with most significant facts on the basis of ratios carefully selected by the central body. The firm will have to do only the study of the ratios and the necessary action.
4. Whether firm is doing better or worse than other firms is made known through the ratios. The firm can take positive steps to improve efficiency.
5. The experience of the central body is at the disposal of participating firms. This knowledge can be very valuable in the analysis of performance and profitability of the firm.
6. Participating firm provide information willingly knowing that this remains confidential.
7. IFC develops cost consciousness among participating firm.
8. IFC leads to avoidance of unfair competition. It guides in the direction of proper and positive efforts towards improvement of performances.
9. Inter-firm comparisons and related data help in representing the problem of the industry to regulating authorities and the Government in an effective and convincing matter. Information regarding entire industry can be presented before the Government and not the isolated problem of individual firm.
10. Collective information provided under IFC can help the industry in its negotiations with trade unions.

Limitations of Inter-Firm Comparison:

The following are the advantages of inter-firm comparison:

1. It is very difficult to maintain the secrecy of the firm since the data are presented to its members.
2. It is not always possible to make a proper comparison between the two firms as identical position is hardly possible in the real world situation. Thus, it is not always effective.
3. Suitable basis for comparison may not be available.

4. In the absence of any proper cost accounting system, the data so collected and presented cannot produce any reliable information for the purpose of making proper comparison. Thus, it will become fruitful only when both the firms maintain good costing system.
5. Sometimes the member firms do not prefer to disclose their data about the financial and operational performances.
6. Middle management is usually not convinced with the utility of such a comparison.
7. It is obvious that inter-firm comparison is useful in improving productivity, efficiency and profitability.
8. It will be useful only when ratios are properly calculated and impartially used. The limitations of ratio analysis should be taken into consideration. It should be noted that a single ratio is of a limited value and their trend is most important.
9. The limitation of uniform costing should also be taken into consideration because uniform costing provides the very basis of inter-firm comparison
10. It should also not be ignored that certain extraneous factors such as prolonged strike, power shortage may also adversely affect the performance of the industry in a particular period.
11. Limitations and short comings of annual returns and data may also affect the reliability of conclusions.

Requisites of Inter-Firm Comparison System

The following requisites should be considered while installing a system of inter-firm comparison:–

1. **Centre for Inter-Comparison:** For collection and analysing data received from member units, for doing a comparative study and for dissemination of the results of study a Central body is necessary. The functions of such a body may be :–
    a. Collection of data and information from its members;
    b. Dissemination of results to its members;
    c. Undertaking research and development for common and individual benefit of its members;
    d. Organising training programmes and publishing magazines.

2. **Membership:** Another requirement for the success of inter-firm comparison is that the firms of different sizes should become members of the Centre entrusted with the task of carrying out inter-firm comparison.
3. **Nature of information to be collected:** Although there is no limit to information, yet the following information useful to the management is in general collected by the Centre for inter-firm comparison.
    a. Information regarding costs and cost structures.
    b. Raw material consumption.
    c. Stock of raw material, wastage of materials, etc.
    d. Labour efficiency and labour utilisation.
    e. Machine utilisation and machine efficiency.
    f. Capital employed and Return on capital.
    g. Liquidity of the organisation.
    h. Reserve and appropriation of profit.
    i. Creditors and debtors.
    j. Methods of production and technical aspects.

4. **Method of Collection and presentation of information:** The Centre collects information at fixed intervals in a prescribed form from its members. Sometimes a questionnaire is sent to each member; the replies of the questionnaire received by the Centre constitute the information/data. The information supplied by firms is generally in the form of ratios and not in absolute figures. The information collected as above is stored and presented to its members in the form of a report. Such reports are not made available to non-members.

Ratio Analysis

Meaning of Ratio

The relationship between two figures or variables expressed mathematically is called a Ratio. The relationship between two figures may be a numerical or quantitative. It is calculated by dividing one by another. It can be expressed as simple fraction, integer, decimal fraction or percentage.

Definition:

According to James C. Van Horne, ;"Ratio is a yardstick used to evaluate the financial condition and performance of a firm, relating to two pieces of financial data to each other".

According to H.G.Guthmann, "Ratio is the relationship or proportion that one amount bears to another, the first number being the numerator and the later denominator".

According to Kohler"The relation of one amount, a to abother b, expressed as the ratio of a to b".

Ratio Analysis - Meaning

A ratio analysis is a quantitative analysis of information contained in a company's financial statements. Ratio analysis is based on line items in financial statements like the balance sheet, income statement and cash flow statement; the ratios of one item – or a combination of items - to another item or combination are then calculated. Ratio analysis is used to evaluate various aspects of a company's operating and financial performance such as its efficiency, liquidity, profitability and solvency. The trend of these ratios over time is studied to check whether they are improving or deteriorating. Ratios are also compared across different companies in the same sector to see how they stack up, and to get an idea of comparative valuations. Ratio analysis is a cornerstone of fundamental analysis.

Ratio Analysis as a tool possesses several important features. The data, which are provided by financial statements, are readily available. The computation of ratios facilitates the comparison of firms which differ in size. Ratios can be used to compare a firm's financial performance with industry averages. In addition, ratios can be used in a form of trend analysis to identify areas where performance has improved or deteriorated over time.

Advantages of Ratio Analysis

The following are the advantages of Ratio Analysis:

1. Ratio analysis summarizes and simplifies the accounting data.
2. It acts as an index of the efficiency of the business.
3. It evaluates the firm's performance over a period by comparing present and past ratio.

4. It helps the management to prepare budgets, formulate policies and prepare future plan of action.
5. It points out the liquidity position to meet its short term obligations and long term solvency.
6. It provides inter firm comparison which reveals the strong firms and weak firms. It helps the management to take corrective action.
7. It facilitates intra firm comparison, which shows the performance of different divisions of the firm.
8. It is an effective means of communication, since ratios have power to speak.
9. It can assess the liquidity, solvency and profitability of the business which identifies the capabilities of business.

Limitations of Ratio Analysis

The following are the advantages of Ratio Analysis:

1. Ratios are tools of quantitative analysis, which ignore qualitative points of view.
2. Ratios are generally distorted by inflation.
3. Ratios give false result, if they are calculated from incorrect accounting data.

4. Ratios are calculated on the basis of past data. Therefore, they do not provide complete information for future forecasting.
5. Ratios may be misleading, if they are based on false or window-dressed accounting information.

Classification of Accounting Ratios

Accounting ratios can be classified from different point of view. Ratios may be used to evaluate the company's liquidity, efficiency, leverage and profitability. The ratios may be classified as following**.**

1. Balance Sheet Ratios or Financial Ratios

a. Current Ratio

b. Quick Ratio

c. Proprietary Ratio
d. Debt-Equity Ratio
e. Capital Gearing Ratio

2. Profit and Loss Account Ratios or Profitability Ratios

f. Gross Profit Raito
g. Net Profit Raito
h. Operating Raito
i. Return on Investment Ratio

3. Turnover Ratios or Inter-Statement Ratios

j. Fixed Assets Turnover Ratio
k. Debtors Turnover Ratio
l. Creditors Turnover Ratio
m.Total Assets Turnover Ratio
n. Stock Turnover Ratio

a. Current Ratio:

Current Ratio is the most common ratio for measuring the liquidity. Current ratio is a liquidity ratio that measures whether or not a firm has enough resources to meet its short-term obligations. It compares a firm's current assets to its current liabilities, and is expressed as follows:

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

The current ratio is an indication of a firm's liquidity. Acceptable current ratios vary from industry to industry. In many cases a creditor would consider a high current ratio to be better than a low current ratio, because a high current ratio indicates that the company is more likely to pay the creditor back. Large current ratios are not always a good sign for investors. If the company's current ratio is too high it may indicate that the company is not efficiently using its current assets or its short-term financing facilities. The ideal ratio is 2:1

If current liabilities exceed current assets the current ratio will be less than 1. A current ratio of less than 1 indicates that the company may have problems meeting its short-term obligations. Some types of businesses can operate with a current ratio of less than one however. If inventory turns into cash much more rapidly than the accounts payable become due, then the firm's current ratio can comfortably remain less than one. Inventory is valued at the cost of acquiring it and the firm intends to sell the inventory for more than this cost. The sale will therefore generate substantially more cash than the value of inventory on the balance sheet. Low current ratios can also be justified for businesses that can collect cash from customers long before they need to pay their suppliers.

b. Quick Ratio or Liquid Ratio:

The **Acid-Test** or **Quick Ratio** or **Liquidity Ratio** measures the ability of a company to use its *near cash* or quick assets to extinguish or retire its liabilities immediately. Quick assets include those current assets that presumably can be quickly converted to cash at close to their book values. It is the ratio between quick or liquid assets and current liabilities.

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

Liquid Assets = Current Assets – (Stock and Prepaid Expenses)
Liquid Liabilities = Current Liabilities – Bank Overdraft

A normal liquid ratio is considered to be 1:1. A company with a quick ratio of less than 1 cannot currently fully pay back its current liabilities. This ratio is considered to be much better and reliable as a tool for assessment of liquidity position of firms.

c. Proprietary Ratio:

This ratio establishes relationship between the shareholders funds to total tangible assets. It shows the general strength of the company. It is calculated from the following formula:

$$\text{Proprietary Ratio} = \frac{\text{Proprietors Fund}}{\text{Tangible Assets}}$$

Proprietors Fund = Equity Sharecapital + Preference Share capital + Reserves & Surplus
Tangible Assets = Total Assets – Goodwill & Preliminary Expenses
The ideal ratio is 1:3. A ratio below 50% may be alarming for creditors, because they incur loss during winding up.

d. Debt Equity Ratio:

The Debt-Equity Ratio (D/E) is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets. It is also known External-Internal Equity Ratio. Closely related to leveraging, the ratio is also known

as risk, gearing or leverage. The two components are often taken from the firm's balance sheet or statement of financial position (so-called book value), but the ratio may also be calculated using market values for both, if the company's debt and equity are publicly traded, or using a combination of book value for debt and market value for equity financially.

$$\text{Debt-Equity Ratio} = \frac{\text{Debt}}{\text{Equity}} \text{ or } \frac{\text{Outsiders Fund}}{\text{Shareholders Fund}} \text{ or } \frac{\text{Long term Debts}}{\text{Shareholders Fund}}$$

Shareholders Fund = Preference Capital + Equity Capital + Reserves & Surplus
- Goodwill & Preliminary Expenses

Outsiders Fund = Current Liabilities + Debentures + Loans

The ideal ratio is 2:1. High ratio shows that the claims of creditors are greater than the owners. A low ratio implies, a greater claim of owners than creditors.

e. Capital Gearing Ratio:

It is the ratio between the capital plus reserves i.e. equity and fixed cost bearing securities. Fixed cost bearing securities include debentures, long term mortgage loans etc.

In a company form of organization, real risk is borne by equity shareholders because they are entitled to whatever residue is left after all others have been paid at the contracted rate.

This ratio measures the extent of capitalization by the funds raised by the issue of fixed cost securities. This ratio is interpreted by the use of two terms. Highly geared mean lower proportion of equity. Low geared means high proportion of equity as compared to fixed cost bearing capital..

$$\text{Capital Gearing Ratio} = \frac{\text{Fixed interest bearing securities}}{\text{Equity share holders funds}}$$

$$= \frac{\text{Pref. Share capital + Fixed bearing securities}}{\text{Equity share holders funds}}$$

f. Gross Profit Ratio:

Gross Profit ratio (GP ratio) is a profitability ratio that shows the relationship between gross profit and total net sales revenue. Net sales means sales minus sales returns. It is a popular tool to evaluate the operational performance of the business. The ratio is computed by dividing the gross profit figure by net sales. GP ratio is highly significant. It is a useful test of profitability and management efficiency. Higher ratio is better.

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

g. Net Profit Ratio:

Net Profit Ratio (NP ratio) is a popular profitability ratio that shows relationship between net profit after tax and net sales. The profit margin indicates the management's ability to operate the business successfully. It is computed by dividing the net profit (after tax) by net sales.

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

High ratio is preferable. An increase in the ratio over the previous period indicates improvement in the operational efficiency of the business.

h. Operating Ratio:

Operating ratio (also known as **operating cost ratio or operating** expense ratio) is computed by dividing operating expenses of a particular period by net sales made during that period. This ratio is a complementary of net profit ratio. Like expense ratio, it is expressed in percentage.

$$\text{Operating Ratio} = \frac{\text{Operating Profit}}{\text{Net Sales}} \times 100 \quad \text{or}$$

$$= \frac{\text{Cost of goods sold + Operating expenses}}{\text{Net Sales}} \times 100$$

i. Return on Investment (ROI):

Return on Investment is also called as "Overall Profitability Ratio" or "Return on Capital Employed'. The prime objective or making investments in any business is to obtain satisfactory return on capital invested. It indicates the percentage of return on the total capital employed in the business. It shows the efficiency of the business as whole. The formula is:

$$\text{ROI} = \frac{\text{Operating Profit}}{\text{Capital Employed}} \times 100 \quad \text{or}$$

Operating Profit = Net Profit + Interest + Taxes

Capital employed = Fixed Assets + Current Assets – Current Liabilities

j. Fixed Assets Turnover Ratio:

It shows the relationship between fixed assets and sales. It indicates the extent to which the sales value is invested in fixed assets. The ratio is calculated by:

$$\text{Fixed Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Net Fixed Assets}}$$

Net Fixed Assets = Value of Assets – Depreciation

Higher ratio means proper utilization of fixed assets and lower ratio indicated under utilization of fixed assets.

k. Debtors Turnover Ratio:

Receivable Turnover Ratio or Debtor's Turnover Ratio is an accounting measure used to measure how effective a company is in extending credit as well as collecting debts. The receivables turnover ratio is an activity ratio, measuring how efficiently a firm uses its assets.

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

Net Credit Sales = Total Sales – (Cash Sales – Sales Return)

$$\text{Total Debtors} = \left\{ \frac{\text{Op.Debtors + Cl.Debtors}}{2} + \frac{\text{Op. B/R + Cl. B/R}}{2} \right\}$$

A high ratio implies either that a company operates on a cash basis or that its extension of credit and collection of accounts receivable is efficient. While a low ratio implies the company is not making the timely collection of credit.

l. Creditors Turnover Ratio:

It is a ratio of net credit purchases to average trade creditors. Creditors Turnover Ratio is also known as Payables Turnover Ratio. It is on the pattern of debtors turnover ratio. It indicates the speed with which the payments are made to the trade creditors. It establishes relationship between net credit annual purchases and average accounts payables. Accounts payables include trade creditors and bills payables. Average means opening plus closing balance divided by two. In this case also accounts payables' figure should be considered at gross value i.e. before deducting provision for discount on creditors (if any).

$$\text{Creditors Turnover Ratio} = \frac{\text{Net Credit Purchases}}{\text{Average Creditors + Average Bills Payables}}$$

Net Credit Purchases = Total Purchases – (Cash Purchases – Purchases Return)

$$\text{Total Debtors} = \left\{ \frac{\text{Op.Creditors + Cl.Creditors}}{2} + \frac{\text{Op. B/P + Cl. B/P}}{2} \right\}$$

The higher ratio should indicate that the payments are made promptly.

m. Total Assets Turnover Ratio:

The total asset turnover ratio compares the sales of a company to its asset base. The ratio measures the ability of an organization to efficiently produce sales, and is typically used by third parties to evaluate the operations of a business. Ideally, a company with a high total asset turnover ratio can operate with fewer assets than a less efficient competitor, and so requires less debt and equity to operate. The result should be a comparatively greater return to its shareholders.

The formula for total asset turnover is:

$$\text{Total Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Total Assets}}$$

n. Stock Turnover Ratio:

This ratio is also called Inventory Turnover Ratio. It indicates whether investment in stock is efficiently used or not. It helps the financial manager to evaluate the inventory policy. This ratio indicates the number of times finished stock is replaced during a year. The formula is:

$$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods sold}}{\text{Average Stock}} \text{ (or) } \frac{\text{Net Sales}}{\text{Average Stock}}$$

Cost of goods sold = Sales – Gross Profit

Illustration: 1

From the following Trading Account calculate:

i) Gross Profit Ratio and ii) Stock Turnover Ratio

To Opening Stock	1,00,000	By Sales	5,60,000
To Purchases	3,50,000	By Closing Stock	1,00,000
To Wages	9,000		
To Gross Profit	2,01,000		
Total	6,60,000	Total	6,60,000

Solution

i) Gross Profit Ratio = Gross Profit/ Sales x 100
= 201000/560000 X 100 = 35.89%

ii) Stock Turnover Ratio = Cost of Goods Sold / Average Stock
Cost of Goods Sold = Sales – Gross Profit
= 560000 – 201000 = 3,59,000
Average Stock = (Opening Stock + Closing Stock) / 2
= (100000 + 100000) /2 = 1,00,000
= 3590004100000 = 3.59 times

Illustration: 2

Following is the Profit & Loss account of ABC Ltd. calculate

i) Net Profit Ratio, ii) Operating Ratio, iii) Office Expenses Ratio and iv) Selling Expenses Ratio

To Opening Stock	50,000	By Sales	2,50,000
To Purchases	1,25,000	By Closing Stock	25,000
To Manufacturing Exp	12,500		
To Office Exp	15,000		
To Selling Exp	12,000		
To Preliminary Exp	3,000		
To Net Profit	57,500		
Total	2,75,000	Total	2,75,000

Solution

i) Net Profit Ratio = Net Profit/ Sales x 100

= 57500/250000 X 100 = 23%

ii) Operating Ratio $= \frac{\text{Cost of Goods Sold + Operating Exp}}{\text{Sales}} \times 100$

Cost of goods sold = Op.Stock + Purchases + Manuf.Exp – Closing Stcok

= 50000 + 125000 + 12500 – 25000 = 1,62,000

Operating Expenses`= Office Exp + Selling Exp

= 15000 + 12000 = 27,000

Operating Ratio $= \frac{162500 + 27000}{250000} \times 100 = \frac{189500}{250000} \times 100 = 75.80\%$

iii) Office Expenses Ratio = Office Exp / Sales x 100

= 15000/25000 X 100 = 6%

vi) Selling Expenses Ratio = Selling Exp / Sales x 100

= 1200/25000 X 100 = 4.80%

Illustration: 3

The following is the Profit and Loss Account of Ram & Co. Ltd. for the year ended 31st March 2006.

To Opening Stock	26,000	By Sales	1,60,000
To Purchases	80,000	By Closing Stock	38,000
To Wages	24,000		
To Manufacturing Exp	16,000		
To Gross Profit	52,000		

	1,98,000		1,98,000
To Selling and Distn. Expenses	4,000	By Gross Profit	52,000
To Administrative Exp	22,800	By Compensation for Acquisition	
To General Exp	1,200	of Land	4,800
To Furniture lost by Fire	800		
To Net Profit	28,000		
Total	56,800	Total	56,800

You are required to find out i) G/P Ratio, ii) N/P Ratio, iii) Operating Ratio and iv) Operating Net Profit to Net Sales Ratio.

Solution

i) Gross Profit Ratio = Gross Profit/ Sales x 100
= 52000/160000 X 100 = 32.50%

ii) Net Profit Ratio = Net Profit/ Sales x 100
= 28000/160000 X 100 = 17%

iii) Operating Ratio $= \frac{\text{Cost of Goods Sold + Operating Exp}}{\text{Sales}} \times 100$

Cost of goods sold = Sales – Gross Profit
= 160000 - 52000 = 1,08,000

Operating Expenses`= Selling & Administrative Exp + Selling Exp + General Exp
= 4000 + 22800 + 1200 = 28,000

Operating Ratio $= \frac{108000 + 28000}{160000} \times 100 = \frac{136000}{160000} \times 100 = 85\%$

vi) Operating Net Profit To Net Sales Ratio = Operating Profit / Sales x 100
= 1200/25000 X 100 = 4.80%

Operating Profit = NP + Non Operating Exp - Non Operating Income
= 28000 + 800 – 4800 = 32,000
= 32000 / 160000 x 100 = 20%

Illustration: 4

The following is the Balance Sheet of Rahim Ltd

Share Capital	30,000	Fixed Assets	16,500
Creditors	8,000	Cash	1,000
Bills Payable	2,000	Bank Debts	6,000
Bank O/D	3,500	Bills Receivable	2,000
		Stock	17,500
		Prepaid Expenses	500
Total	2,75,000	Total	2,75,000

Calculate a) Current Ratio and b) Liquid Ratio

Solution:

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

Current Assets = Cash + Book Debts + B/R + Stock + Prepaid Exp

= 1000+6000+2000+17500+500 = 27,000

Current Liabilities = Creditors + B/P + Bank O/D

= 8000+2000+3500 = 13,500

$$\text{Current Ratio} = \frac{27000}{13500} = 2 : 1$$

$$\text{b) Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

Liquid Assets = Current Assets - Stock - Prepaid Exp

= 27000 – 17500 - 500 = 9,000

Liquid Liabilities = Current Liabilities - Bank O/D

= 13,500 – 3500 = 10000

$$\text{Liquid Ratio} = \frac{9000}{10000} = 0.9 : 1$$

Illustration: 5

From the following Balance Sheet of Robert Ltd. calculate i) Current Ratio ii)Liquid Ratio iii) Proprietary Ratio iv) Debt-Equity Ratio and v) Capital Gearing Ratio

Liabilities	Rs.	Assets	Rs.
5000 Equity shares of Rs.100 Each	5,00,000	Land and Buildings	6,00,000
		Plant and Machinery	5,00,000
2000 8% Preference shares of Rs.100 each	2,00000	Stock	2,40,000
		Debtors	2,00,000
4000 9% Debentures of Rs.100 each	4,00,000	Cash and Bank	55,000
		Prepaid Expenses	5,000
Reserves	3,00,000		
Creditors	1,50,000		
Bank O/D	50,000		
Total	16,00,000	Total	16,00,000

Solution:

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

Current Assets = Stock + Debtors + Cash & Bank + Prepaid Exp

= 240000+200000+55000+5000 = 5,00,000

Current Liabilities = Creditors + Bank O/D

= 150000+50000 = 2,00,000

$$\text{Current Ratio} = \frac{500000}{200000} = 2.5 : 1$$

$$\text{b) Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}}$$

Liquid Assets = Current Assets - Stock - Prepaid Exp

= 500000 – 240000 - 5000 = 2,55,000

Liquid Liabilities = Current Liabilities - Bank O/D

= 200000 – 50000 = 150000

$$\text{Liquid Ratio} = \frac{255000}{150000} = 1.7 : 1$$

c) Proprietary Ratio = Proprietors Fund / Total Tangible Assets

Proprietors Fund = Equity Share capital + Pref. Share capital +Reserves & surplus
= 500000+200000+300000 = 10,00,000

Total Tangible Assets = 16,00,000

10,00,000 / 16,00,00 = 0.6 times

d) Debt-Equity Ratio = External Equities / Internal Equities (or)
= Debt / Equity

Debt = Debentures + Current Liabilities
= 400000 + 200000 = 6,00,000

Equity = Proprietors Fund = 10,00,000
= 6,00,000 / 10,00,000 = 0.6 : 1

e) Capital Gearing Ratio = $\frac{\text{Pref. Share capital + Fixed Interest Securities}}{\text{Equity holders Fund}}$

Fixed Interest Securities = Debentures + Long Term Loan
= 200000 + 400000 = 6,00,000

Equity Share holders Fund = Equity Capital + Reserves & Surplus
= 500000 + 300000 = 8,00,000

6,00,000 / 8,00,000 = 0.75 : 1

Illustration: 6

Annual Credit Sales = Rs.50,000
Returns Inwards = Rs. 5,000
Debtors = Rs.10,000
Bills Receivables = Rs. 5,000

Find out Debtors Turnover Ratio

Solution:

Debtors Turnover Ratio = Net Credit Sales / Debtors + Bills Receivables
= 50000 – 5000 / 10000 + 5000
= 45,000 / 15,000 = 3 times

Illustration: 7

From the following information, calculate Creditors Turnover Ratio

Total Purchases	= 2,00,000
Cash Purchases	= 25,000
Purchases Returns	= 15,000
Creditors at the end	= 30,000
Bills Payable at end	= 10,000
Reserves for Discount on Creditors	= 5,000

Solution:

Total Purchases	2,00,000
Less: Cash Purchases	25,000
	1,75,000
Less: Purchases Returns	15,000
Net Annual Purchases	1,60,000

Creditors Turnover Ratio = Net Credit Purchases / Creditors + Bills Payable
= 1,60,000 / 30,000 + 10,000 = 4 times

Illustration: 8

Calculate i) Current Asset ii) Liquid Assets iii) Inventory
Current Ratio = 2.6 : 1
Liquid Ratio = 1.5 : 1
Current Liabilities = Rs.40,000

Solution:

i) Current Ratio = Current Assets / Current Liabilities
2.6 = Current Assets / 40,000
Current Assets = 2.6 x 40,000 = Rs.1,04,000

ii) Liquid Ratio = Liquid Assets / Liquid Liabilities
1.5 = Liquid Assets / 40,000
Liquid Assets = 1.5 x 40,000 = Rs.60,000
Liquid Assets = Current Assets – Inventory
60,000 = 1,04,000 - Inventory
Inventory = 1,04,000 – 60,000 = 40,000