

## Chapter 3

# Financial Analysis & Planning

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**Q1. “Financial statements consist primarily of balance sheet and profit and loss account, which forms the basis for financial analysis, planning and decision making. However, irrespective of this fact the finance manager uses certain analytical tools.”**

**State the importance of analytical tools in the light of this context. Also mention main analytical tools.**

**Answer:**

- ✓ The basis for financial analysis, planning and decision making is financial statements which mainly consist of Balance Sheet and Profit and Loss Account.
- ✓ The profit & loss account shows the operating activities of the concern and the balance sheet depicts the balance value of the acquired assets and of liabilities at a particular point of time.
- ✓ However, the above statements do not disclose all of the necessary and relevant information.
- ✓ For obtaining material and relevant information necessary for ascertaining the financial strengths and weaknesses of an enterprise, it is necessary to analyze the data depicted in the financial statement.
- ✓ Hence, the financial manager uses certain analytical tools which help in better financial analysis and planning.
- ✓ The main tools are **Ratio Analysis** and **Cash Flow Analysis**.

**Q2. Define the term “Ratio”. Why do we use ratio analysis rather than using single accounting figure?**

**Answer:**

- ✓ A ratio is defined as “the indicated quotient of two mathematical expressions and as the relationship between two or more things.”
- ✓ Ratio analysis means that a single accounting figure by itself might not communicate any meaningful information but when expressed as a

relative to some other figure, it may provide some significant information.

- ✓ Ratio analysis involves comparing numbers from the balance sheet, income statement, and cash flow statement as well as against previous years, other companies, the industry, or even the economy in general.

**Q3. Define how financial ratio is calculated and what is the objective of calculation of financial ratios?**

**Answer:**

Financial ratio is calculated as below:

- ✓ A relationship expressed in mathematical terms;
- ✓ Between two individual figures or group of figures;
- ✓ Connected with each other in some logical manner; and
- ✓ Selected from financial statements of the concern

The main objective of financial ratios is that all stakeholders (owners, investors, lenders, employees etc.) can draw conclusions about:

- ✓ Performance (past, present and future);
- ✓ Strengths & weaknesses of a firm; and
- ✓ Can take decisions in relation to the firm.

**Q4. What are the sources of information for financial statement analysis?**

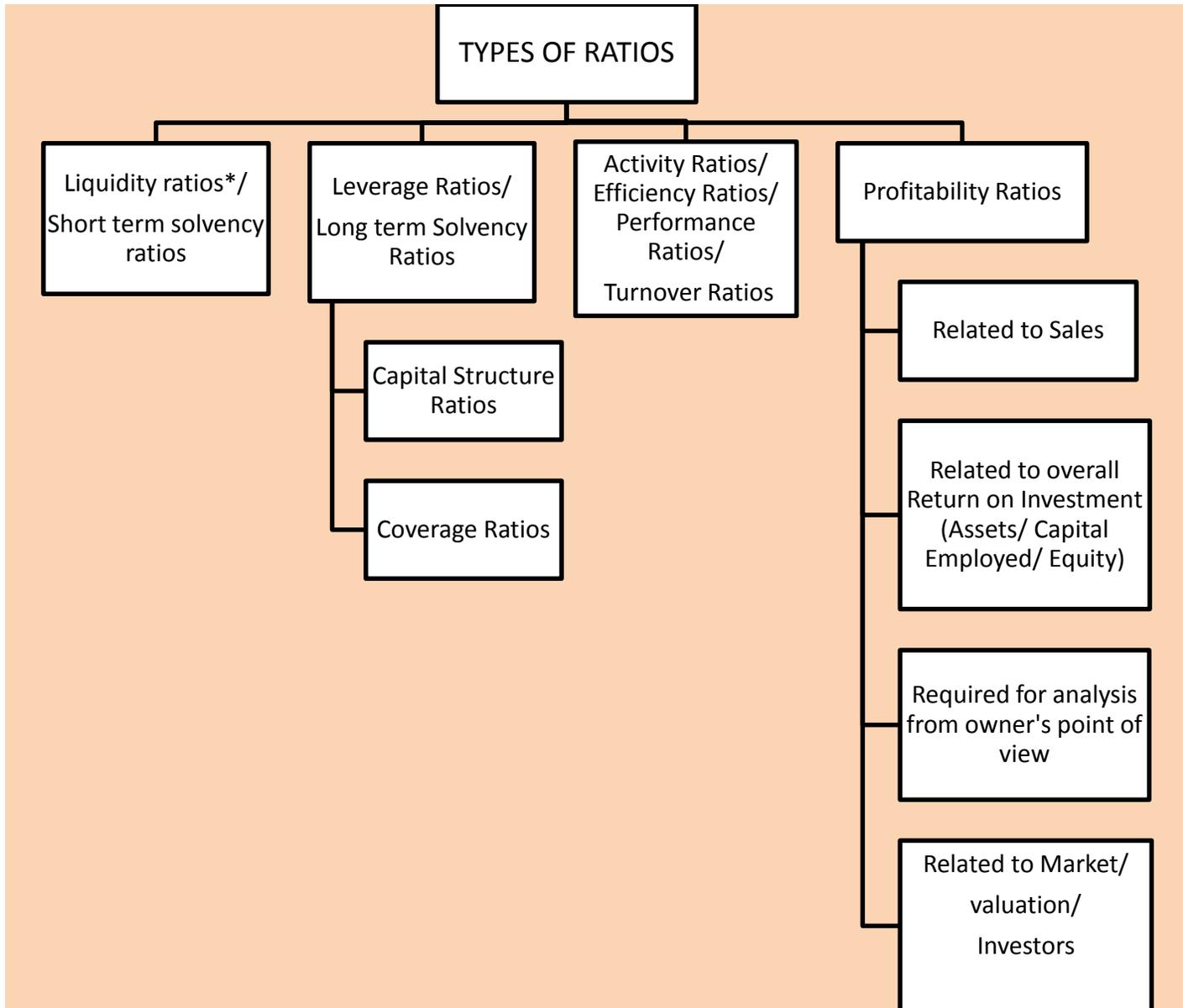
**Answer:**

The main sources of information for financial statement analysis are as follows:

- i. Annual Reports
- ii. Interim financial statements
- iii. Notes to Accounts
- iv. Statement of cash flows
- v. Business periodicals
- vi. Credit and investment advisory services

Q5. How will you classify different ratios?

Answer:



**Q6. Explain the term “Liquidity” or “Short term solvency”. Also explain how lack of sufficient liquidity is bad for the organization?**

**Answer:**

- ✓ Liquidity or short-term solvency means ability of the business to pay its short-term liabilities.
- ✓ Lack of sufficient liquidity results in inability of the firm to pay-off short-term liabilities which eventually affects its credibility as well as its credit rating.
- ✓ Continuous default on the part of the business leads to commercial bankruptcy which ultimately may lead to sickness and dissolution.
- ✓ Short-term lenders and creditors of a business are very much interested to know its state of liquidity because of their financial stake.
- ✓ Thus, lack of sufficient liquidity is bad for the organization.

**Q7. Mention the different types of liquidity ratios?**

**Answer:**

**The different types of liquidity ratios are mentioned below:**

- a. Current Ratio
- b. Quick Ratio or Acid test Ratio
- c. Cash Ratio or Absolute Liquidity Ratio
- d. Basic Defense Interval or Interval Measure Ratios
- e. Net Working Capital Ratio

**Q8. Briefly explain Current Ratio?**

**Answer:**

- ✓ The Current Ratio is one of the best known measures of short term solvency or short-term liquidity.
- ✓ It addresses the question:  
“Does your business have enough current assets to meet the payment schedule of its current debts with a margin of safety for possible losses in current assets?”

- ✓ It is given by:

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

Where,

Current Assets = Inventories + Sundry Debtors + Cash and Bank Balances  
+ Receivables/ Accruals + Loans and Advances +  
Disposable Investments + Any other current assets.

Current Liabilities = Creditors for goods and services + Short-term Loans  
+ Bank Overdraft + Cash Credit + Outstanding  
Expenses + Provision for Taxation + Proposed  
Dividend + Unclaimed Dividend + Any other current  
liabilities.

- ✓ A generally acceptable current ratio is 2:1.
- ✓ However, whether or not a specific ratio is satisfactory depends on the nature of the business and the characteristics of its current assets and liabilities.

### Q9. Briefly explain Quick Ratio or Acid test Ratio?

**Answer:**

- ✓ The Quick Ratio is sometimes called the “acid-test” ratio and is one of the best measures of liquidity.
- ✓ It is given by,

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

Where,

Quick Assets = Current Assets - Inventories

Current Liabilities = same as mentioned under Current Ratio

- ✓ Quick Assets consist of only cash and near cash assets.
- ✓ Inventories are deducted from current assets as they are not considered ‘near cash assets’ and in times of financial difficulty inventory may be saleable only at liquidation value.

- ✓ But in a seller's market inventories are also near cash assets.
- ✓ The Quick Ratio is a much more conservative measure of short-term liquidity than the Current Ratio.
- ✓ It helps answer the question:  
"If all sales revenues should disappear, could my business meet its current obligations with the readily convertible quick funds on hand?"
- ✓ An acid-test of 1:1 is considered satisfactory unless the majority of "quick assets" are in accounts receivable, and the pattern of accounts receivable collection lags behind the schedule for paying current liabilities.

**Q10. Briefly explain Cash Ratio or Absolute Liquidity Ratio?**

**Answer:**

- ✓ The cash ratio measures the **absolute liquidity** of the business.
- ✓ This ratio is calculated as:

$$\text{Cash Ratio} = \frac{\text{Cash and Bank balance} + \text{Marketable Securities}}{\text{Current Liabilities}}$$

OR

$$= \frac{\text{Cash and Bank Balance} + \text{Current Investments}}{\text{Current Liabilities}}$$

- ✓ The Absolute Liquidity Ratio only tests short-term liquidity in terms of cash and marketable securities/ current investments.

**Q11. Briefly explain Basic Defense Interval or Interval Measure Ratios?****Answer:**

- ✓ The Basic Defense Interval ratio would help determine the number of days the company can cover its cash expenses without the aid of additional financing if for some reason all the company's revenues were to suddenly cease.
- ✓ It is given by,

$$\text{Basic Defense Interval} = \frac{\text{Cash and Bank Balances} + \text{Marketable securities}}{\text{Operating Expenses} / \text{Number of days (say 360)}}$$

$$\text{Interval Measure} = \frac{\text{Current Assets} - \text{Inventories}}{\text{Daily Operating Expenses}}$$

Where,

Daily Operating Expenses =

$$\frac{\text{Cost of Goods Sold} + \text{Selling Administration \& other General Expenses} - \text{Depreciation and other non cash expenditure}}{\text{Number of days in a year}}$$

**Q12. Briefly explain Net Working Capital Ratio?****Answer:**

- ✓ Net working capital is more a measure of cash flow than a ratio.
- ✓ The result of this calculation **must be a positive number**.
- ✓ It is calculated as shown below:
 
$$\text{Net Working Capital Ratio} = \frac{\text{Current Assets} - \text{Current Liabilities}}{\text{Current Assets}}$$
 (excluding short term borrowing)
- ✓ Bankers look at Net Working Capital over time to determine a company's ability to weather financial crises.
- ✓ Loans are often tied to minimum working capital requirements.

**Q13. Briefly explain Long-term solvency ratio/ leverage ratio?**

**Answer:**

- ✓ The leverage ratios may be defined as those financial ratios which measure the long term stability and structure of the firm.
- ✓ They indicate the mix of funds provided by owners and lenders and assure the lenders of the long term funds with regard to:
  - i. Periodic payment of interest during the period of the loan and
  - ii. Repayment of principal amount on maturity.

**Q14. Briefly explain the types of Long-term solvency ratio/ leverage ratio?**

**Answer:**

**Leverage ratios are of two types:**

**1. Capital Structure Ratios**

- a. Equity Ratio
- b. Debt Ratio
- c. Debt to Equity Ratio
- d. Debt to Total Assets Ratio
- e. Capital Gearing Ratio
- f. Proprietary Ratio

**2. Coverage Ratios**

- a. Debt-Service Coverage Ratio (DSCR)
- b. Interest Coverage Ratio
- c. Preference Dividend Coverage Ratio
- d. Fixed Charges Coverage Ratio

**Q15. What are capital structure ratios and also mention the different types of capital structure ratios?**

**Answer:**

- ✓ Capital structure ratios provide an insight into the financing techniques used by a business and focus on the long-term solvency position.
- ✓ From the balance sheet one can get only the absolute fund employed and its sources, but only capital structure ratios show the relative weight of different sources.
- ✓ Various capital structure ratios are:
  - a. Equity Ratio
  - b. Debt Ratio
  - c. Debt to Equity Ratio
  - d. Debt to Total Assets Ratio
  - e. Capital Gearing Ratio
  - f. Proprietary Ratio

**Q16. Briefly explain the different types of capital structure ratios?**

**Answer:**

**a. Equity Ratio:**

- ✓ This ratio indicates proportion of owners' fund to total fund invested in the business.
- ✓ It is believed that higher the proportion of owners' fund lower is the degree of risk.
- ✓ It is given by:

$$\text{Equity Ratio} = \frac{\text{Shareholder's Equity}}{\text{Capital Employed}}$$

**b. Debt Ratio:**

- ✓ This ratio is used to analyze the long-term solvency of a firm.
- ✓ It is given by:

$$\text{Debt Ratio} = \frac{\text{Total Outside Liabilities}}{\text{Total Debt + Net Worth}}$$

OR

$$\text{Debt Ratio} = \frac{\text{Total Debt}}{\text{Net Assets}}$$

- ✓ Total debt or total outside liabilities includes short and long term borrowings from financial institutions, debentures/bonds, deferred payment arrangements for buying capital equipment, bank borrowings, public deposits and any other interest bearing loan.

### c. Debt to Equity Ratio

- ✓ Debt equity ratio is the indicator of firm's financial leverage.
- ✓ It indicates the proportion of debt fund in relation to equity.
- ✓ It is given by:

$$\begin{aligned} \text{Debt to Equity Ratio} &= \frac{\text{Total Outside Liabilities}}{\text{Shareholder's Equity}} \\ &= \frac{\text{Total Debt} *}{\text{Shareholder's Equity}} \\ &= \frac{\text{Long term Debt} **}{\text{Shareholder's Equity}} \end{aligned}$$

- ✓ This ratio is very often referred in capital structure decision as well as in the legislation dealing with the capital structure decisions (i.e. issue of shares and debentures).
- ✓ A high debt to equity ratio here means less protection for creditors, a low ratio, on the other hand, indicates a wider safety cushion (i.e., creditors feel the owner's funds can help absorb possible losses of income and capital).
- ✓ Lenders are also very keen to know this ratio since it shows relative weights of debt and equity.

**d. Debt to Total Assets Ratio:**

- ✓ This ratio measures the proportion of total assets financed with debt and, therefore, the extent of financial leverage.
- ✓ It is given by,

$$\begin{aligned} \text{Debt to Total Assets Ratio} &= \frac{\text{Total Outside Liabilities}}{\text{Total Assets}} \\ &\text{OR} \\ &= \frac{\text{Total Debt}}{\text{Total Assets}} \end{aligned}$$

**e. Capital Gearing Ratio:**

- ✓ In addition to debt-equity ratio, sometimes capital gearing ratio is also calculated to show the proportion of fixed interest (dividend) bearing capital to funds belonging to equity shareholders i.e. equity funds or net worth.
- ✓ It is given by:

Capital Gearing Ratio

$$= \frac{(\text{Preference Share Capital} + \text{Debentures} + \text{Other Borrowed funds})}{(\text{Equity Share Capital} + \text{Reserves \& Surplus} - \text{Losses})}$$

**f. Proprietary Ratio:**

- ✓ It indicates the proportion of total assets financed by shareholders.
- ✓ It is given by:

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

**Q17. What are coverage ratios? Mention the important coverage ratios.**

**Answer:**

- ✓ The coverage ratios measure the firm's ability to service the fixed liabilities.
- ✓ They establish the relationship between fixed claims and what is normally available out of which these claims are to be paid.
- ✓ The fixed claims consist of:

- i. Interest on loans
  - ii. Preference dividend
  - iii. Amortization of principal or repayment of the installment of loans or redemption of preference capital on maturity.
- ✓ The important coverage ratios are mentioned as below:
- a) Debt Service Coverage Ratio (DSCR)
  - b) Interest Coverage Ratio
  - c) Preference Dividend Coverage Ratio
  - d) Fixed Charges Coverage Ratio

**Q18. Briefly describe the important coverage ratios.**

**Answer:**

**a) Debt Service Coverage Ratio (DSCR)**

- ✓ Lenders are interested in debt service coverage to judge the firm's ability to pay off current interest and installments.
- ✓ It is given by:

$$\text{Debt Service Coverage Ratio} = \frac{\text{Earnings available for debt services}}{\text{Interest + Installments}}$$

- ✓ Normally DSCR of **1.5 to 2** is satisfactory.
- ✓ Sometimes in both numerator and denominator lease rentals may be added.

**b) Interest Coverage Ratio**

- ✓ This ratio is also known as "**times interest earned ratio**".
- ✓ This ratio indicates the extent to which earnings may fall without causing any embarrassment to the firm regarding the payment of interest charges.
- ✓ This ratio is computed as:

$$\text{Interest Coverage Ratio} = \frac{\text{Earnings before Interest and Taxes (EBIT)}}{\text{Interest}}$$

**NOTE:** Earnings before interest and taxes are used in the numerator because the ability to pay interest is not affected by tax burden as interest on debt funds is deductible expense.

- ✓ A **high** interest coverage ratio means that an enterprise can easily meet its interest obligations even if earnings before interest and taxes suffer a considerable decline.
- ✓ A **lower** ratio indicates excessive use of debt or inefficient operations.

**c) Preference Dividend Coverage Ratio**

- ✓ This ratio measures the ability of a firm to pay dividend on preference shares which carry a stated rate of return.
- ✓ This ratio is computed as:

Preference Dividend Coverage Ratio

$$= \frac{\frac{\text{Net Profit}}{\text{Earnings After Tax}}}{\text{Preference Dividend Liability}}$$

- ✓ This ratio indicates margin of safety available to the preference shareholders.
- ✓ A higher ratio is desirable from preference shareholders point of view.
- ✓ Similarly, **Equity Dividend coverage ratio** can also be calculated taking (EAT – Pref. Dividend) and equity fund figures into consideration.

**d) Fixed Charges Coverage Ratio:**

- ✓ This ratio shows how many times the cash flow before interest and taxes covers all fixed financing charges.
- ✓ This ratio is more than 1 is considered as safe.
- ✓ It is given by,

$$\text{Fixed Charges Coverage Ratio} = \frac{\text{EBIT} + \text{Depreciation}}{\text{Interest} + \frac{\text{Repayment of Loan}}{1 - \text{tax rate}}}$$

**Q19. What are Activity ratio/ Efficiency ratio/ Performance ratio/ Turnover ratio? Also mention the important activity ratios.**

**Answer:**

- ✓ These ratios are employed to evaluate the **efficiency with which the firm manages** and utilizes its assets.
- ✓ For this reason, they are often called '**Asset management ratios**'.
- ✓ They indicate the frequency of sales with respect to its assets. These assets may be capital assets or working capital or average inventory.
- ✓ These ratios are usually calculated with reference to sales/cost of goods sold and are expressed in terms of rate or times.
- ✓ The important Activity Ratio/ Efficiency Ratio/ Performance Ratio/ Turnover Ratio are mentioned as below:
  - a. Total Assets Turnover Ratio
  - b. Fixed Assets Turnover Ratio
  - c. Capital Turnover Ratio
  - d. Current Assets Turnover Ratio
  - e. Working Capital Turnover Ratio
    - i. Inventory/ Stock Turnover Ratio
    - ii. Receivables (Debtors) Turnover Ratio
    - iii. Payables (Creditors) Turnover Ratio.

**Q20. Briefly explain the different Activity ratios/ Efficiency ratios/ Performance ratios/ Turnover ratios.**

**Answer:**

**(a) Total Asset Turnover Ratio:**

- ✓ This ratio measures the efficiency with which the firm uses its total assets.
- ✓ This ratio is computed as:

$$\text{Total Assets Turnover Ratio} = \frac{\text{Sales}}{\frac{\text{Cost Of Good sold}}{\text{Total Assets}}}$$

**(b) Fixed Assets Turnover Ratio:**

- ✓ It measures the efficiency with which the firm uses its fixed assets.
- ✓ Its computed as below:

$$\text{Fixed Asset Turnover Ratio} = \frac{\text{Sales}}{\frac{\text{Cost of Goods Sold}}{\text{Fixed Assets}}}$$

- ✓ A high fixed assets turnover ratio indicates efficient utilization of fixed assets in generating sales.
- ✓ A firm whose plant and machinery are old may show a higher fixed assets turnover ratio than the firm which has purchased them recently.

**(c) Capital Turnover Ratio/ Net Asset Turnover Ratio:**

- ✓ This ratio indicates the firm's ability of generating sales/ Cost of Goods Sold per rupee of long term investment.
- ✓ The higher the ratio, the more efficient is the utilization of owner's and long-term creditors' funds.
- ✓ It is given by:

$$\text{Capital Turnover Ratio} = \frac{\text{Sales}}{\frac{\text{Cost of Goods Sold}}{\text{Net Assets}}}$$

- ✓ Net Assets includes Net Fixed Assets and Net Current Assets (Current Assets – Current Liabilities).
- ✓ Since Net Assets equals to capital employed it is also known as Capital Turnover Ratio.

**(d) Current Assets Turnover Ratio:**

- ✓ It measures the efficiency using the current assets by the firm.
- ✓ It is computed as below:

$$\text{Current Assets Turnover Ratio} = \frac{\text{Sales}}{\frac{\text{Cost of Goods Sold}}{\text{Current Assets}}}$$

**(e) Working Capital Turnover Ratio:**

- ✓ It is computed as below:

$$\text{Working Capital Turnover Ratio} = \frac{\text{Sales}}{\frac{\text{Cost of Goods Sold}}{\text{Working Capital}}}$$

- ✓ **Note:** Average of Total Assets/ Fixed Assets/ Current Assets/ Net Assets/ Working Capital/ also can be taken.
- ✓ Working Capital Turnover is further segregated into **Inventory Turnover, Debtors Turnover, and Creditors Turnover.**

**I. Inventory/ Stock Turnover Ratio:**

- ✓ It establishes relationship between the **cost of goods sold** during the year and **average inventory** held during the year.
- ✓ It measures the efficiency with which a firm utilizes or manages its inventory. This ratio indicates **how fast inventory is used or sold.**
- ✓ It is calculated as follows:

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

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

- ✓ In case of inventory of raw material the following formula shall be used:

$$\text{Raw Material Inventory Turnover Ratio} = \frac{\text{Raw Material Consumed}}{\text{Average Raw Material Stock}}$$

- ✓ A **high ratio** is good from the view point of liquidity and vice versa.
- ✓ A **low ratio** would indicate that inventory is not used/ sold/ lost and stays in a shelf or in the warehouse for a long time.

## II. Receivables (Debtors) Turnover Ratio

- ✓ When a firm sells goods on credit, the realization of sales revenue is delayed and the receivables are created. Cash from these receivables is realized later on.
- ✓ The speed with which these receivables are collected affects the liquidity position of the firm.
- ✓ The debtor's turnover ratio throws light on the collection and credit policies of the firm.
- ✓ It measures the efficiency with which management is managing its accounts receivables.
- ✓ It is calculated as follows:

$$\begin{aligned} \text{Receivable (Debtors) Turnover Ratio} \\ = \frac{\text{Credit Sales}}{\text{Average Accounts Receivable}} \end{aligned}$$

## III. Payables Turnover Ratio

- ✓ This ratio shows the velocity of payables payment by the firm.
- ✓ It is calculated as follows:

$$\begin{aligned} \text{Payables Turnover Ratio} \\ = \frac{\text{Annual Net Credit Purchases}}{\text{Average Account Payables}} \end{aligned}$$

- ✓ A **low** creditor's turnover ratio reflects liberal credit terms granted by supplies.
- ✓ While a **high** ratio shows that accounts are settled rapidly.
- ✓ **Payable Velocity/ Average payment period** can be calculated using:

$$\begin{aligned} \text{Payable Velocity or Average Payment Period} \\ = \frac{\text{Average Accounts Payable}}{\text{Average Daily Credit Purchases}} \end{aligned}$$

**OR**

$$= \frac{12 \text{ months , or, 52 weeks , or, 360 days}}{\text{Payables Turnover Ratio}}$$

- ✓ The firm can compare what credit period it receives from the suppliers and what it offers to the customers.
- ✓ Also it can compare the average credit period offered to the customers in the industry to which it belongs.

**NOTE:** The above three ratios i.e. Inventory Turnover Ratio/ Receivables Turnover Ratio is also relevant to examine liquidity of an organization.

**Q21. Explain Receivables (Debtors') Velocity.**

**Answer:**

- ✓ Debtors' turnover ratio indicates the average collection period.
- ✓ However, the average collection period can be directly calculated as follows:

Receivables Velocity or, Average Collection Period

$$= \frac{\text{Average Accounts Receivables}}{\text{Average Daily Credit Sales}}$$

Where,

$$\text{Average Daily Credit Sales} = \frac{\text{Credit Sales}}{\text{Number of days in a year (say 360)}}$$

- ✓ The average collection period measures the average number of days it takes to collect an account receivable.

**Q22. What are Profitability ratios? How will you classify the profitability ratios?**

**Answer:**

- ✓ The profitability ratios measure the profitability or the operational efficiency of the firm.
- ✓ They are some of the **most closely watched** and **widely quoted ratios**.
- ✓ Management attempts to maximize these ratios to maximize firm value.
- ✓ The results of the firm can be evaluated in terms of its earnings with reference to a given level of assets or sales or owner's interest etc.

- ✓ The important profitability ratios are broadly classified in four categories:
  - i. Profitability Ratios related to Sales
  - ii. Profitability Ratios related to overall Return on Investment
  - iii. Profitability Ratios required for Analysis from Owner's Point of View
  - iv. Profitability Ratios related to Market/ Valuation/ Investors.

**Q23. How will you sub-classify the profitability ratios?**

**Answer:**

The profitability ratios can be sub-classified in the following manner:

1. Profitability Ratios based on Sales
  - a. Gross Profit Ratio
  - b. Net Profit Ratio
  - c. Operating Profit Ratio
  - d. Expenses Ratio
2. Profitability Ratios related to Overall Return on Assets/ Investments
  - a. Return on Investment (ROI)
    - i. Return on Assets (ROA)
    - ii. Return on Capital Employed (ROCE)
    - iii. Return on Equity (ROE)
3. Profitability Ratios required for Analysis from Owner's Point of View
  - a. Earnings per share (EPS)
  - b. Dividend per share (DPS)
  - c. Dividend payout ratio (DP)
4. Profitability Ratios related to Market/ Valuation/ Investors
  - a. Price Earnings Ratio ( P/E Ratio)
  - b. Dividend and Earning Yield
  - c. Market Value/ Book Value per share (MV/BV)
  - d. Q Ratio

**Q24. How will you explain the different profitability ratios based on sales?****Answer:**

The different profitability ratios based on sales are explained as below:

**(a) Gross Profit Ratio/ Gross Profit Margin:**

✓ It measures the percentage of each sale in rupees remaining after payment for the goods sold.

✓ It is computed as below:

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

✓ A high Gross Profit Margin is a favorable sign of good management.

**(b) Net Profit Ratio/ Net Profit Margin:**

✓ It measures the relationship between net profit and sales of the business.

✓ Depending on the concept of net profit it can be calculated as:

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

**OR,**

$$\text{Net Profit Ratio} = \frac{\text{Earnings After Tax (EAT)}}{\text{Sales}}$$

$$\text{ii. Pre – tax Profit Ratio} = \frac{\text{Earnings before taxes (EBT)}}{\text{Sales}} \times 100$$

✓ A high net profit ratio ensures positive returns of the business.

**(c) Operating Profit Ratio:**

✓ Operating profit ratio is calculated to evaluate operating performance of business.

✓ It is computed as below:

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

**OR**

$$= \frac{\text{Earnings Before Interest and Taxes (EBIT)}}{\text{Sales}}$$

Where,

Operating Profit = Sales – Cost of Goods Sold (COGS) – Expenses

- ✓ This ratio is followed because it focuses on operating results.
- ✓ Operating profit is often referred to as earnings before interest and taxes or EBIT.

(d) Expenses Ratio:

- ✓ The expense ratio can be expressed in different variants as explained below:

i. Cost of Goods Sold Ratio (COGS) =  $\frac{\text{Cost of Goods Sold}}{\text{Sales}} \times 100$

ii. Operating Expenses Ratio =  $\frac{\text{Administrative Expense} + \text{Selling \& Distribution Overhead}}{\text{Sales}} \times 100$

iii. Operating Ratio =  $\frac{\text{COGS} + \text{Operating Expenses}}{\text{Sales}} \times 100$

iv. Financial Expenses Ratio =  $\frac{\text{Financial Expenses}^*}{\text{Sales}} \times 100$

\*It excludes taxes, loss due to theft, goods destroyed by fire etc.

**Q25. How will you explain the different profitability ratios related to overall return on assets/ Investments?**

**Answer:**

- ✓ The profitability ratio related to overall return on assets/Investments consists of **Return on Investment (ROI)** which is the most important ratio of all.
- ✓ It is the percentage of return on funds invested in the business by its owners.
- ✓ It is computed as below:

$$\text{Return On Investment} = \frac{\text{Return or, Profit or, Earnings}}{\text{Investment}} \times 100$$

OR,

$$= \frac{\text{Return or, Profit or, Earnings}}{\text{Sales}} \times \frac{\text{Sales}}{\text{Investment}}$$

✓ Also,

$$\frac{\text{Return or, Profit or, Earnings}}{\text{Sales}} = \text{Profitability Ratio}$$

&

$$\text{Investment Turnover Ratio} = \frac{\text{Sales}}{\text{Investment}}$$

Therefore we have,

ROI = Profitability Ratio × Investment Turnover Ratio.

- ✓ Thus, ROI can be improved either by improving Profitability Ratio or Investment Turnover Ratio or by both.
- ✓ The investment may be Total Assets or Net Assets.
- ✓ Further there are three broad categories of ROI mentioned as below:
  - i. Return on Assets (ROA),
  - ii. Return on Capital Employed (ROCE) and
  - iii. Return on Equity (ROE).

**Q26. Explain the different categories of Return of investment (ROI).**

**Answer:**

The variant categories of Return of Investment have been explained as below:

i. Return on Assets (ROA)

- ✓ This ratio measures the profitability of the firm in terms of assets employed in the firm.

✓ It is measured as below:

$$\text{Return on Assets} = \frac{\text{Net Profit after taxes}}{\text{Average Total Assets}}$$

OR,

$$= \frac{\text{Net Profit after taxes}}{\text{Average Tangible Assets}}$$

OR,

$$= \frac{\text{Net Profit after taxes}}{\text{Average fixed Assets}}$$

- ✓ As many times assets are financed by lenders, we can calculate ROA as follows:

Return on Assets

$$= \frac{\text{Net Profit after Taxes + Interest}}{\text{Average Total Assets or, Average Tangible Assets or, Average Fixed Assets}}$$

$$= \frac{\text{EBIT}(1 - t)}{\text{Average Total Assets}} \text{ (Also known as Return on total assets)(ROTA)}$$

$$= \frac{\text{EBIT}(1 - t)}{\text{Average Net Assets}} \text{ (Also known as Return on Net assets)(RONA)}$$

ii. Return on Capital Employed (ROCE):

- ✓ It is another variation of ROI.
- ✓ The ROCE is calculated as follows:

$$\text{ROCE (pre - tax)} = \frac{\text{Earnings before Interest and Taxes (EBIT)}}{\text{Capital Employed}} \times 100$$

OR

$$\text{ROCE (post - tax)} = \frac{\text{EBIT} (1 - t)}{\text{Capital Employed}} \times 100$$

Also it is sometimes calculated as:

$$\text{ROCE} = \frac{\text{Net Profit after taxes (PAT or, EAT) + Interest}}{\text{Capital Employed}} \times 100$$

Where,

Capital Employed = Total Assets – Current Liabilities, or,  
= Fixed Assets + Working Capital

- ✓ ROCE should always be higher than the rate at which the company borrows.

- ✓ **Intangible assets** (like goodwill, patents and trade-marks) should be **included** in the capital employed. But **fictitious asset** should not be included in the capital employed.
- ✓ If information is available then average capital employed shall be taken.

iii. Return on Equity (ROE):

- ✓ This ratio reveals how profitably the owners' funds have been utilized by the firm. Thus it measures the percentage return generated to equity shareholders.
- ✓ This ratio is computed as:

Return on Equity

$$= \frac{\text{Net profit after taxes} - \text{Preference Dividend (if any)}}{\frac{\text{Net Worth}}{\text{Equity shareholder's fund}}} \times 100$$

- ✓ Return on equity is one of the most important indicators of a firm's profitability and potential growth.
- ✓ Companies that boast a high return on equity with little or no debt are able to grow without large capital expenditures.
- ✓ **Two companies can have the same return on equity, yet one can be a much better business.**
- ✓ If return on total shareholders is calculated then Net Profit after taxes (before preference dividend) shall be divided by total shareholders' fund includes preference share capital.

**Q27. Explain the concept of Return of Equity (ROE) using the Du Pont Model.**

**Answer:**

- ✓ DuPont system serves as the basis of components that make up return on equity.
- ✓ Under the Traditional DuPont model there are various components used in the calculation of return on equity-
  - i. Net profit margin
  - ii. Asset turnover, and
  - iii. The equity multiplier.
- ✓ By examining each input individually, the sources of a company's return on equity can be discovered and compared to its competitors.

**Q28. Explain the different components of Return of Equity (ROE) traditionally considered for calculation, under the Du Pont Model.**

**Answer:**

Under the Traditional DuPont model there are various components used in the calculation of return on equity-

**i. Profitability/Net profit margin:**

- ✓ The net profit margin is basically the after tax profit which a company generates for each rupee of revenue.
- ✓ The general rule-of-thumb is that a higher net profit margin is preferable, though many times management purposely reduce the net profit margin in a bid to attract higher sales
- ✓ It is computed as below:

$$\frac{\text{Profitability}}{\text{Net Profit Margin}} = \frac{\text{Profit}}{\text{Net Income}} \div \frac{\text{Sales}}{\text{Revenue}}$$

- ✓ Net profit margin is in fact a safety cushion; the lower the margin, the less room for error.
- ✓ A business with 1% margins has no room for flawed execution and even small miscalculations on management's part could lead to tremendous losses with little or no warning.

**ii. Investment Turnover/Asset turnover/Capital Turnover:**

- ✓ The asset turnover ratio is a measure of how effectively a company converts its assets into sales.
- ✓ It is calculated

$$\text{Investment Turnover} = \frac{\text{Sales, or Revenue}}{\text{Investment, or Assets, or Capital}}$$

- ✓ This ratio is inversely related to the net profit margin; i.e., the higher the net profit margin, the lower the asset turnover.
- ✓ The result is that the investor can compare companies using different models (low-profit, high-volume vs. high-profit, low-volume) and determine which one is the more attractive business.

**iii. The Equity Multiplier.**

- ✓ It is possible for a company with terrible sales and margins to take on excessive debt and artificially increase its return on equity.
- ✓ The equity multiplier, a measure of financial leverage, allows the investor to see what portion of the return on equity is the result of debt.
- ✓ The equity multiplier is calculated as follows:

$$\text{Equity Multiplier} = \frac{\text{Investment, or Assets, or Capital}}{\text{Shareholder's Equity}}$$

**Q29. Briefly explain the different profitability ratios required for analysis from owner's point of view.**

**Answer:**

**a. Earnings per Share (EPS):**

- ✓ The Earnings per share reflects the profitability of the firm per share from the point of view of ordinary shareholders.
- ✓ It is measured in terms of number of equity shares.
- ✓ This is known as Earnings per share.
- ✓ It is calculated as follows:

$$\text{Earnings per share} = \frac{\text{Net Profit available to Equity Shareholders}}{\text{Number of Equity Shares Outstanding}}$$

**b. Dividend per Share (DPS):**

- ✓ The Earnings per share only reflects the profitability of a firm per share.
- ✓ It does not however reflect how much profit is paid as dividend and how much is retained by the business.
- ✓ Dividend per share ratio indicates the amount of profit distributed to equity shareholders per share.
- ✓ It is calculated as:

$$\text{Dividend per Share} = \frac{\text{Total Dividend paid to equity shareholders}}{\text{Number of equity shares outstanding}}$$

**c. Dividend payout Ratio (DP):**

- ✓ This ratio measures the dividend paid in relation to net earnings.
- ✓ It is determined to see to how much extent earnings per share have been retained by the management for the business.
- ✓ It is computed as:

$$\text{Dividend payout ratio} = \frac{\text{Dividend per equity share (DPS)}}{\text{Earnings per share (EPS)}}$$

**Q30. Mention and also briefly explain the different profitability ratios related to market/ valuation/ Investors.**

**Answer:**

The different profitability ratios related to market/ valuation/ Investors are mentioned and explained as below:

**a. Price- Earnings Ratio (P/E Ratio):**

- ✓ This ratio indicates the expectation of equity investors about the earnings of the firm.
- ✓ It indicates the payback period to the investors or prospective investors.

- ✓ It is generally taken as a summary measure of growth potential of an investment, risk characteristics, shareholders orientation, corporate image and degree of liquidity.
- ✓ It is calculated as

$$\text{Price – Earnings per Share} = \frac{\text{Market Price per Share(MPS)}}{\text{Earnings per Share(EPS)}}$$

**b. Dividend and Earning Yield:**

- ✓ This ratio indicates return on investment; which may be on average investment or closing investment.
- ✓ Dividend yield indicates return on paid up value of shares.
- ✓ It is computed as below:

$$\text{Dividend Yield} = \frac{\text{Dividend} \pm \text{Change in share price}}{\text{Initial Share Price}} \times 100$$

OR

$$\text{Dividend Yield} = \frac{\text{Dividend per Share (DPS)}}{\text{Market Price per Share (MPS)}}$$

- ✓ Yield (%) is the indicator of true return in which share capital is taken at its market value.
- ✓ Earning Yield also can be calculated as

$$\text{Earning Yield} = \frac{\text{Earnings per Share(EPS)}}{\text{Market Price per Share(MPS)}} \times 100$$

It is also known as Earnings Price (EP) Ratio.

**c. Market Value/ Book Value per share (MVBV):**

- ✓ This ratio indicates market response of the shareholders' investment.
- ✓ It provides evaluation of how investors view the company's past and future performance.

- ✓ It is computed as below:

$$\frac{\text{Market Value per Share}}{\text{Book Value per Share}} = \frac{\text{Average Share Price}}{\text{Net Worth} \div \text{Number of Equity Shares}}$$

OR,

$$= \frac{\text{Closing Share Price}}{\text{Net Worth} \div \text{Number of Equity Shares}}$$

- ✓ Undoubtedly, higher the ratios better is the shareholders' position in terms of return and capital gains.

**d. Q Ratio:**

- ✓ It is computed as below:

$$\text{Q Ratio} = \frac{\text{Market Value of equity and liabilities}}{\text{Estimated replacement cost of assets}}$$

**Q31. "Financial Statement Analysis is used by different users to fulfill their respective different objectives." Mention such users along with their respective objectives. Also mention which ratios in particular are used to fulfill such objectives.**

**Answer:**

Sr. No.	Users	Objectives	Ratios used in general
1	Shareholders	✓ To know about the profitability and growth of the organization.	- Profitability Ratio - [In particular Earnings per share (EPS), Dividend per share (DPS), Price Earnings (P/E), Dividend Payout ratio (DP)]
2	Investors	✓ To know overall financial health of the organization	- Profitability Ratios - Capital structure Ratios - Solvency Ratios

		✓ Particularly they want to know the future perspective of the organizations	- Turnover Ratios
3	Lenders	✓ To know the safety perspective of their money lend to the organization.	- Coverage Ratios - Solvency Ratios - Turnover Ratios - Profitability Ratios
4	Creditors	✓ To know liability position of the organization particularly in short term. ✓ Creditors would like to know whether the organization will be able to pay the amount on due date.	- Liquidity Ratios - Short term solvency Ratios/ Liquidity Ratios
5	Employees	✓ To know the overall financial wealth of the organization and compare it with competitor company.	- Liquidity Ratios - Long terms solvency Ratios - Profitability Ratios - Return on investment
6	Regulator/ Government	✓ To determine taxations and other details payable to the government.	- Profitability Ratios
7	Managers:		-
	a. Production Managers	✓ To know various data regarding input output, production quantities etc.	- Input output Ratio - Raw material consumption.
	b. Sales Managers	✓ Data related to quantities of sales for various years, other associated figures and produced future sales figure	- Turnover ratios (basically receivable turnover ratio) - Expenses Ratios

		will be an area of interest for them.	
	c. Financial Manager	✓ They are interested to know various ratios for their future predictions of financial requirement.	<ul style="list-style-type: none"> <li>- Profitability Ratios (particularly related to Return on investment</li> <li>- Turnover ratios</li> <li>- Capital Structure Ratios</li> </ul>
	d. Chief Executives/ General Manager	✓ They will try to find the entire perspective of the company, starting from Sales, Finance, Inventory, Human resources, Production etc.	<ul style="list-style-type: none"> <li>- All Ratios</li> </ul>
8	Different Industry		-
	a. Telecom	✓ Finance Manager /Analyst will calculate ratios of their company and compare it with Industry norms.	<ul style="list-style-type: none"> <li>- Ratio related to 'call'</li> <li>- Revenue and expenses per customer</li> </ul>
	b. Bank		<ul style="list-style-type: none"> <li>- Loan to deposit Ratios</li> <li>- Operating expenses and income ratios</li> </ul>
	c. Hotel		<ul style="list-style-type: none"> <li>- Room occupancy ratio</li> <li>- Bed occupancy Ratios</li> <li>- Passenger-kilometer</li> </ul>

			- Operating cost – per passenger- kilometer.
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**Q32. “Ratio analysis is relevant in assessing the performance of a firm with respect to certain aspects.” Explain such aspects and also explain how it helps in financial decision making.**

**Or,**

**Explain how financial ratios are used for evaluating performance of firm.**

**Answer:**

Ratio analysis helps in assessing the performance of a firm with respect to the following aspects:

**a. Liquidity Position**

- ✓ Ratio analysis helps to draw conclusions regarding liquidity position of a firm.
- ✓ The liquidity position of a firm would be satisfactory if it is able to meet its obligations when they become due.
- ✓ This ability is reflected in the liquidity ratios of a firm.
- ✓ The liquidity ratios are particularly useful in credit analysis by banks and other suppliers of short-term loans.

**b. Long-term Solvency:**

- ✓ Long term solvency is of concern to the long term creditors, security analysts and the present and potential owners of a business.
- ✓ It is measured by the leverage/capital structure and profitability ratios which focus on earning power and operating efficiency.
- ✓ The leverage ratios, for instance, will indicate whether a firm has a reasonable proportion of various sources of finance or whether heavily loaded with debt in which case its solvency is exposed to serious strain.
- ✓ Similarly, the various profitability ratios would reveal whether or not the firm is able to offer adequate return to its owners consistent with the risk involved.

**c. Operating Efficiency**

- ✓ Ratio analysis throws light on the degree of efficiency in the management and utilization of its assets.
- ✓ Various activity ratios help to measure this kind of operational efficiency.
- ✓ In fact, the solvency of a firm is dependent upon the sales revenues generated by the use of its assets – total as well as its components.

**d. Overall Profitability**

- ✓ The management is constantly concerned about the overall profitability of the enterprise, that is, the ability of the firm to meet its short-term as well as long-term obligations to its creditors and to ensure a reasonable return to its owners.
- ✓ Also they want to secure optimum utilization of the assets of the firm.
- ✓ This is possible if an integrated view is taken and all the ratios are considered together.

**e. Inter-firm comparison**

- ✓ One of the popular techniques of ratio analysis is to compare the ratios of a firm **with the industry average**.
- ✓ It should be reasonably expected that the performance of a firm should be in broad conformity with that of the industry to which it belongs.
- ✓ If the results are at variance either with the industry average or with those of the competitors, the firm can seek to identify the probable reasons and, in the light, take remedial measures.
- ✓ Thus, ratio analysis also serves as a stepping stone to remedial measures.
- ✓ Ratios have predictor value and they are very helpful in forecasting and planning the business activities for a future. It helps in budgeting.
- ✓ Conclusions are drawn on the basis of the analysis obtained by using ratio analysis.

- ✓ The decisions affected may be whether to supply goods on credit to a concern, whether bank loans will be made available, etc.

**f. Financial Ratios for budgeting:**

- ✓ In this field ratios are able to provide a great deal of assistance, budget is only an estimate of future activity based on past experience, in the making of which the relationship between different spheres of activities are invaluable.
- ✓ It is usually possible to estimate budgeted figures using financial ratios.
- ✓ Ratios also can be made use of for measuring actual performance with budgeted estimates.
- ✓ They indicate directions in which adjustments should be made either in the budget or in performance to bring them closer to each other.

**Q33. Explain the various limitations of financial ratio.**

**Answer:**

**The different limitations of financial ratio have been explained as below:**

- Diversified product lines:**
  - ✓ Many businesses operate a large number of divisions in quite different industries.
  - ✓ In such cases ratios calculated on the basis of aggregate data cannot be used for inter-firm comparisons.
- Financial data are badly distorted by inflation:**
  - ✓ Historical cost values may be substantially different from true values.
  - ✓ Such distortions of financial data are also carried in the financial ratios.
- Seasonal factors may also influence financial data:**

**Example:**

- ✓ A company dealing in summer garments keeps a high inventory during October - January every year. For the rest of the year its inventory level becomes just 1/4th of the seasonal inventory level.

- ✓ So liquidity ratios and inventory ratios will produce biased picture and year-end picture may not be the average picture of the business.
  - ✓ Sometimes it is suggested to take monthly average inventory data instead of year end data to eliminate seasonal factors.
  - ✓ But for external users it is difficult to get monthly inventory figures. In some cases monthly inventory figures may not be available.
- iv.** To give a good shape to the popularly used financial ratios (like current ratio, debt equity ratios, etc.):
- ✓ For giving good shape business may make some year-end adjustments.
  - ✓ Such window dressing can change the character of financial ratios which would be different had there been no such change.
- v.** Differences in accounting policies and accounting period:
- ✓ Because of this it can make the accounting data of two firms non-comparable as also the accounting ratios.
- vi.** There is no standard set of ratios against which a firm's ratios can be compared:
- ✓ Sometimes a firm's ratios are compared with the industry average.
  - ✓ But if a firm desires to be above the average, then industry average becomes a low standard.
  - ✓ On the other hand, for a below average firm, industry averages become too high a standard to achieve.
- vii.** It is very difficult to generalize whether a particular ratio is good or bad:  
For example:  
A low current ratio may be said 'bad' from the point of view of low liquidity, but a high current ratio may not be 'good' as this may result from inefficient working capital management.
- viii.** Financial ratios are inter-related, not independent:
- ✓ Viewed in isolation one ratio may highlight efficiency. But when considered as a set of ratios they may speak differently.

- ✓ Such interdependence among the ratios can be taken care of through multivariate analysis.

**Q34. What are the types of financial analysis? Also briefly explain them.**

**Answer:**

Financial Analysis is basically of two types as mentioned and explained below:

1. Horizontal Analysis:

- ✓ When financial statement of one year are analyzed and interpreted after comparing with another year or years, it is known as horizontal analysis.
- ✓ It can be based on the ratios derived from the financial information over the same time span.

2. Vertical Analysis:

- ✓ When financial statement of single year is analyzed then it is called vertical analysis.
- ✓ This analysis is useful in inter firm comparison.
- ✓ Every item of Profit and loss account is expressed as a percentage of gross sales, while every item on a balance sheet is expressed as a percentage of total assets held by the firm.

## Practical Questions

**Q1.** In a meeting held at Solan towards the end of 2016, the Directors of M/s HPCL Ltd. have taken a decision to diversify. At present HPCL Ltd. sells all finished goods from its own warehouse. The company issued debentures on 01.01.2017 and purchased fixed assets on the same day. The purchases have remained stable during the concerned period.

Following information is provided to you:

### Income Statements

Particulars	2016 (₹)		2017 (₹)	
Cash Sales	30,000		32,000	
Credit Sales	2,70,000	3,00,000	3,42,000	3,74,000
Less: Cost of goods sold		2,36,000		2,98,000
Gross profit		64,000		76,000
Less: Operating expenses				
Warehousing	13,000		14,000	
Transport	6,000		10,000	
Administrative	19,000		19,000	
Selling	11,000	49,000	14,000	
			2,000	59,000
Net Profit		15,000		17,000

## Balance Sheet

Assets & Liabilities	2016 (₹)		2017 (₹)	
Fixed Assets (Net Block)	-	30,000	-	40,000
Receivables	50,000		82,000	
Cash at Bank	10,000		7,000	
Stock	60,000		94,000	
Total Current Assets	120,000		1,83,000	
Payables	50,000		76,000	
Total Current Liabilities	50,000		76,000	
Working Capital (CA-CL)		70,000		1,07,000
Total Assets		1,00,000		1,47,000
<b>Represented by:</b>				
Share Capital		75,000		75,000
Reserves and Surplus		25,000		42,000
Debentures		-		30,000
		1,00,000		1,47,000

You are required to calculate the following ratios for the years 2016/2017.

- Gross Profit Ratio
- Operating Expenses to Sales Ratio
- Operating Profit Ratio
- Capital Turnover Ratio
- Stock Turnover Ratio
- Net Profit to Net Worth Ratio, and
- Receivables Collection Period.

Ratio relating to capital employed should be based on the capital at the end of the year. Give the reasons for change in the ratios for 2 years. Assume opening stock of ₹ 40,000 for the year 2017. Ignore Taxation.

**Q2.** The capital structure of Beta Limited is as follows:

Equity share capital of ₹ 10 each	8,00,000
9% preference share capital of ₹ 10 each	3,00,000
	11,00,000

Additional information: Profit (after tax at 35 per cent), ₹270,000; Depreciation, ₹ 60,000; Equity dividend paid, 20 per cent; Market price of equity shares, ₹ 40.

You are required to compute the following, showing the necessary workings:

- a) Dividend yield on the equity shares
- b) Cover for the preference and equity dividends
- c) Earnings per shares
- d) Price-earnings ratio

**Q3.** The following accounting information and financial ratios of PQR Ltd. relate to the year ended 31st December, 2016

		2016
I.	Accounting Information	
	Gross Profit	15% of sales
	Net Profit	8% of sales
	Raw materials consumed	20% of works cost
	Direct wages	10% of works cost
	Stock of raw materials	3 months' usage
	Stock of finished goods	6% of works cost
	Debt collection period	60 days
	(All sales are on credit)	
II.	Financial Ratios:	
	Fixed assets to sales	1:3
	Fixed assets to current assets	13:11
	Current ratio	2:1
	Long- term loans to Current liabilities	2:1
	Capital to Reserves and Surplus	1:4

If value of fixed assets as on 31st December, 2015 amounted to ₹ 26 lakhs, prepare a summarized Profit and Loss Account of the company for the year ended 31st December, 2016 and also the Balance Sheet as on 31st December, 2016.

**Q4.** The total sales (all credit) of a firm are ₹ 6,40,000. It has a gross profit margin of 15 per cent and a current ratio of 2.5. The firm's current liabilities are ₹ 96,000; inventories ₹ 48,000 and cash ₹ 16,000.

(a) Determine the average inventory to be carried by the firm, if an inventory turnover of 5 times is expected? (Assume a 360 day year).

(b) Determine the average collection period if the opening balance of debtors is intended to be of ₹ 80,000? (Assume a 360 day year).

**Q5.** Following is the abridged Balance Sheet of Alpha Ltd :-

Liabilities	(₹)	Assets	(₹)	(₹)
Share capital	1,00,000	Land & Buildings		80,000
P and L A/c	17,000	Plant & Machinery	50,000	
Current liabilities	40,000	Less: Depreciation	15,000	35,000
				1,15,000
		Stock	21,000	
		Receivables	20,000	
		Bank	1,000	42,000
<b>Total</b>	<b>1,57,000</b>	<b>Total</b>		<b>1,57,000</b>

With the help of the additional information furnished below, you are required to prepare Trading and Profit & Loss Account and a Balance Sheet as at 31st March, 2017:

i. The company went in for reorganization of capital structure, with share capital remaining the same as follows:

Share Capital	50%
Other shareholders funds	15%
5% Debentures	10%
Payables	25%

Debentures were issued on 1st April, interest being paid annually on 31st March.

- ii. Land and Buildings remained unchanged. Additional plant and machinery has been bought and a further ₹ 5,000 depreciation written off.  
(The total fixed assets then constituted 60% of total fixed and current assets.)
- iii. Working capital ratio was 8 : 5
- iv. Quick assets ratio was 1 : 1
- v. The receivables (four-fifth of the quick assets) to sales ratio revealed a credit period of 2 months. There were no cash sales.
- vi. Return on net worth was 10%.
- vii. Gross profit was at the rate of 15% of selling price.
- viii. Stock turnover was eight times for the year.  
Ignore Taxation.

**Q6.** X Co. has made plans for the next year. It is estimated that the company will employ total assets of ₹ 8,00,000; 50 per cent of the assets being financed by borrowed capital at an interest cost of 8 per cent per year. The direct costs for the year are estimated at ₹ 4,80,000 and all other operating expenses are estimated at ₹ 80,000. The goods will be sold to customers at 150 per cent of the direct costs. Tax rate is assumed to be 50 per cent. You are required to calculate:

- (i) Net profit margin;
- (ii) Return on assets;
- (iii) Asset turnover and
- (iv) Return on owners' equity.

- Q7.** Following information is available for Navya Ltd. along with various ratios relevant to the particulars industry it belongs to. Gives your comments on strength and weakness of Navya Ltd. comparing its ratios with the given industry norms.

**Navya Ltd**  
**Balance Sheet as at 31.3.2017**

<b>Liabilities</b>	<b>Amount(₹)</b>	<b>Assets</b>	<b>Amount(₹)</b>
Equity share capital	48,00,000	Fixed Assets	24,20,000
10% Debentures	92,00,000	Cash	8,80,000
Sundry Creditors	6,60,000	Sundry Debtors	11,00,000
Bills Payable	8,80,000	Stock	33,00,000
Other current Liabilities	4,40,000		
<b>Total</b>	<b>77,00,000</b>	<b>Total</b>	<b>77,00,000</b>

**Statement of Profitability**  
**For the year ended 31<sup>st</sup> march, 2017**

<b>Particulars</b>	<b>Amount(₹)</b>	<b>Amount(₹)</b>
Sales		1,10,00,000
Less: Cost of goods sold	-	-
Material	41,80,000	-
Wages	26,40,000	-
Factory overhead	12,98,000	81,18,000
Gross Profit	-	28,82,000
Less: Selling and distribution cost	11,00,000	-
Administrative cost	12,28,000	23,28,000
Earnings before interest and tax	-	5,54,000
Less: Interest Charges	-	92,000
Earning before tax	-	4,62,000
Less: Tax@50%	-	2,31,000
Net Profit(PAT)		2,31,000

## Industry Norms

Ratios	Norms
Current Asset/Current Liability	2.5
Sales/Debtors	8.0
Sales/stock	9.0
Sales/Total Assets	2.0
Net Profit/Sales	3.5%
Net Profit/Total Assets	7.0%
Net Profit/Net Worth	10.5%
Total Debt/Total Assets	60.0%

**Q8.** Ganpati Limited has furnished the following ratios and information relating to the year ended 31st March, 2017.

Sales	₹ 60,00,000
Return on net worth	25%
Rate of income tax	50%
Share capital to reserves	7:3
Current ratio	2
Net profit to sales	6.25
Inventory turnover(based on COGS)	12
Cost of goods sold	₹ 18,00,000
Interest on debentures	₹ 60,000
Receivables	₹ 2,00,000
Payables	₹ 2,00,000

You are required to:

- Calculate the operating expenses for the year ended 31st March, 2017.
- Prepare a balance sheet as on 31st March in the following format:

## Balance Sheet as on 31st March, 2017

Liabilities	Amount	Assets	Amount
Share Capital		Fixed Assets	
Reserves and Surplus		Current Assets	
15% Debentures		Stock	
Payables		Receivables	
		Cash	

**Q9.** Using the following information, complete this balance sheet:

Long-term debt to net worth	0.5 to 1
Total asset turnover	2.5 x
Average collection period*	18 days
Inventory turnover	9 x
Gross profit margin	10%
Acid-test ratio	1 to 1

\*Assume a 360-day year and all sales on credit

Particulars	Amount (₹)	Particulars	Amount(₹)
Cash		- Notes and payables	1,00,000
Accounts receivable		- Long-term debt	
Inventory		- Common stock	1,00,000
Plant and equipment		- Retained earnings	1,00,000
Total assets		Total liabilities and equity	

**Q10.** From the following information, prepare a summarized Balance Sheet as at 31<sup>st</sup> march, 2002

Net working capital	₹ 2,40,000
Bank Overdraft	₹ 40,000
Fixed Assets to proprietary ratio	0.75
Reserves and surplus	₹ 1,60,000
Current ratio	2.5
Liquidity ratio (Quick Ratio)	1.5

**Q11.** With the help of following information complete the Balance Sheet of MNOP Ltd.

Equity Share Capital	1,00,000
The relevant ratios of the company are as follows:	
Current debt to total debt	0.40
Total debt to equity share capital	0.60
Fixed assets to equity share capital	0.60
Total assets turnover	2 times
Inventory turnover	8 times

**Q12.** JKL Ltd. Has the following Balance Sheets as on March 31, 2015 and March 31, 2016:

<b>Balance Sheet</b>		
	₹ in lakhs	
	March 31, 2015	March 31, 2016
<b>Sources of funds:</b>		
Shareholder's funds	2,377	1,472
Loan funds	3,570	3,083
	<b>5,947</b>	<b>4,555</b>
<b>Application of funds:</b>		
Fixed Assets	3,466	2,900
Cash and Bank	489	470
Debtors	1,495	1,168
Stock	2,867	2,407
Other current assets	1,567	1,404
Less: Current liabilities	(3,937)	(3,794)
	<b>5,947</b>	<b>4,555</b>

The Income Statements of the JKL Ltd. for the year ended is as follows:

	In lakhs	
	March 31, 2015	March 31, 2016
Sales	22,165	13,882
Less: Cost of goods sold	20,860	12,544
Gross Profit	1,305	1,338
Less: Selling, General and Administrative expenses	1,135	752
Earnings before Interest and Tax	170	586
Interest expense	113	105
Profit before Tax	57	481
Tax	23	192
Profit after Tax	34	289

Required:

- i. Calculate for the year 2015-2016:
  - a) Inventory Turnover Ratio
  - b) Financial Leverage
  - c) Return on Capital Employed

- d) Return on Equity
- e) Average collection period

ii. Give a brief comment on the Financial Position of JKL Limited.

**Q13.** Using the following information, complete the Balance Sheet given below:

- i. Total Debt to Net worth 1:2
- ii. Total assets turnover 2
- iii. Gross profit on sales 30%
- iv. Average collection period 40 days  
(Assume 360 days in a year)
- v. Inventory turnover ratio based on cost of goods sold and year- end inventory 3
- vi. Acid test ratio 0.75

Balance Sheet

as on March 31, 2016

Liabilities	Amount	Assets	Amount
Equity share capital	4,00,000	Plant and Machinery	
Reserves and surplus	6,00,000	and other Fixed Assets	-
Total Debt:		Current Assets:	
Current liabilities	-	Inventory	-
		Debtors	-
		Cash	-
<b>Total</b>		<b>Total</b>	

**Q14.** MN Limited gives you the following information related for the year ending 31<sup>st</sup> March, 2016:

1.	Current Ratio	2.5 : 1
2.	Debt Equity Ratio	1 : 1.5
3.	Return on Total Assets (After Tax)	15%
4.	Total Assets Turnover Ratio	2
5.	Gross Profit Ratio	20%
6.	Stock Turnover Ratio	7
7.	Current Market Price per Equity Share	₹ 16
8.	Net Working Capital	₹ 4,50,000
9.	Fixed Assets	₹ 10,00,000

10.	60,000 Equity Shares of	₹ 10
11.	20,000, 9% Preference Shares of	₹ 10
12.	Opening Stock	₹ 3,80,000

You are required to calculate:

- i. Quick Ratio
- ii. Fixed Asset Turnover Ratio
- iii. Proprietary Ratio
- iv. Earnings per share
- v. Price-Earnings ratio.

**Q15.** Using the following data, complete the Balance Sheet given below

Gross Profit	₹ 54,000
Shareholders' Funds	₹ 6,00,000
Gross Profit margin	20%
Credit sales to Total sales	80%
Total Assets turnover	0.3 times
Inventory turnover	4 times
Average collection period (a 360 days year)	20 days
Current Ratio	1.8
Long term Debt to Equity	40%

Balance Sheet

Creditors	----	Cash	----
Long term Debt	----	Debtors	----
Shareholders' funds	----	Inventory	----
		Fixed Assets	----

**Q16.** MNP Limited has made plans for the next year 2015-16. It is estimated that the company will employ total assets of ₹ 25,00,000 ; 30% of assets being financed by debt at an interest of 9% p.a. The direct costs for the year are estimated at ₹ 15,00,000 and all other operating expenses are estimated at ₹ 2,40,000. The sales revenue are estimated at ₹ 22,50,000. Tax rate is assumed to be 40%. Required to calculate:

- (i) Net Profit Margin (After Tax);
- (ii) Return on Assets (After Tax);
- (iii) Assets Turnover; and
- (iv) Return on Equity.

**Q17.** The following accounting information and financial ratios of M Limited related to the year ended 31<sup>st</sup> March, 2016:

Inventory Turnover Ratio	6 times
Creditors Turnover Ratio	10 times
Debtor Turnover Ratio	8 times
Current Ratio	2.4
Gross Profit Ratio	25%

Total Sales ₹ 30,00,000; cash sales 25% of credit sales; cash purchases ₹ 2,30,000; working capital ₹ 2,80,000; closing inventory is ₹ 80,000 more than opening inventory.

You are required to calculate:

- i. Average Inventory
- ii. Purchases
- iii. Average Debtors
- iv. Average Creditors
- v. Average payment period
- vi. Average collection period
- vii. Current Assets
- viii. Current Liabilities

**Q18.** The assets of SONA Ltd. consist of fixed assets and current assets, while its current liabilities, while its current liabilities bank credit in the ratio of 2:1. You are required to prepare the Balance Sheet of the company as on 31<sup>st</sup> March, 2016 with the help of following information:

Share Capital	₹ 5,75,000
Working Capital (CA-CL)	₹ 1,50,000
Gross Margin	25%
Inventory Turnover	5 times
Average collection period	1.5 months
Current Ratio	1.5 : 1
Quick Ratio	0.8 : 1
Reserves and Surplus to Bank and Cash	4 times

Assume 360 days in a year.

**Q19.** NOOR Ltd. provides the following information for the year ended 31<sup>st</sup> March, 2014:

Equity Share Capital	₹ 25,00,000
Closing Stock	₹ 6,00,000
Stock Turnover Ratio	5 times
Gross Profit Ratio	25%
Net Profit/ Sale	20%
Net Profit/ Capital	¼

You are required to prepare:

Trading and Profit & Loss Account for the year ending 31<sup>st</sup> March, 2014.