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Accounting Ratios and Analysis

1. Introduction

The financial statements analysis assists to understand the information disclosed in the financial statements of the business entity easily. Due to this simplicity, different stakeholders find it very convenient to make their investment decision. In this context, comparative statements and common size financial statements information is obtained in the previous chapter. Ratio analysis is included as another tool of financial analysis. Ratio analysis is a traditional and widely used tool.

Definition and Explanation :

I. M. Pandey says that, "The relationship between two accounting figures, expressed mathematically, is known as financial ratio". Ratios help to summarise the large quantities of financial data and to make qualitative judgement about firm's financial performance.

Financial statements show accounting statistics. Gross profit, net profit, sales, equity share capital, equity shareholders' funds, current liabilities, current assets etc. are included as a component of financial statements. Accounting analysis is done between two relevent components based on a specific relation. As discussed earlier, the gross profit and sales are two relevant components. There is a relation between these two from the view point of accounting. Assume sales is ₹ 3,00,000 and gross profit is ₹ 90,000.

Here, ₹ 90,000 shows accounting information. This figure does not explain the interpretation of any analysis. If this information is to be presented in the form of ratio it can be presented as follows :

$$\text{Gross profit } (\%) = \frac{\text{Gross profit}}{\text{Sales}} \times 100$$

$$\text{So, Gross profit ratio} = \frac{90{,}000}{3{,}00{,}000} \times 100$$

$$= 30\ \%$$

This analysis shows that for every sale of ₹ 100, gross profit is ₹ 30. Due to the ratios, accounting figures can be presented in useable form. Detailed discussion in this regard is given subsequently.

2. Peculiarity of Ratios :

In ratio analysis comparison is done for useful interpretation of financial statements. An individual ratio does not indicate any favourable or adverse situtation. It is to be compared with a standard ratio. e.g. Above stated gross profit ratio 30 % does not indicate any favourable or adverse situation. It represents result only. Thus, when ratios are compared with any standards than the utility of it is proved. These standards can be as under. By comparing these standards, the information of good-bad results can be obtained.

(i) The comparison with ratios calculated based on past financial statements

(ii) The comparison with ratios developed by the business entity

(iii) The comparison with ratios of industry

(iv) The comparison with ratios of competitors

Gross profit ratio is revenue ratio. Assume that it was 25 % in the previous year and 30 % during the current year. It shows that there is a growth in the condition of gross profit of the business. If the ratio of the previous year is 40 %, it means the gross profit condition is reported adverse in the current year.

3. The Objectives of Ratio Analysis :

The objectives of ratio explain its significance. Due to ratio analysis the information of financial statements can easily, be understood briefly and scientifically. Ratio analysis is useful to different users of financial statements, to make their decisions. Their objectives or significance is as follows :

(1) For financial statement analysis : Only accounting statistics information is available from details disclosed in financial statements. These figures do not represent any analysis. Ratio analysis works as indicator to the users of financial statements. Different stakeholders undertake analysis of profit and loss statement and balance sheet. To make this analysis meaningful and useful, ratio analysis is used.

(2) For simple presentation of accounting information : Ratio analysis represents accounting figures in more simple, in brief and in scientific form. The components of financial statements have specific relation with each other and the ratio analysis clarifies the meaning of this relation. e.g. Debt-equity ratio. This ratio shows the proportion of equity against debt. Many components depend on the other component. e.g. Net profit-ratio. Here, the creation of profit is from sales. This ratio shows the proportion of net profit to sales.

Ratio analysis represents the relation between two related components and their simple understanding to the users.

(3) To know profitability status of the entity : The basic objective of a business is to earn profit. In accounting the profitability of the business can be measured by applying the ratio analysis in different forms where gross profit ratio, net profit ratio, return on capital employed, rate of return on equity share capital etc. are included here.

(4) To know liquidity status of the entity : The liquidity ratio explains the capacity to meet short-term liabilities of the entity. From the liquidity short-term solvency of the business can be measured, where current ratio, liquid ratio etc. are included.

(5) To know long-term solvency of the entity : The long-term solvency of a business entity is measured by deducting total liabilities from total assets. Higher the positive difference, higher the solvency. This is the ideal measurement for the entity to obtain borrowings. The lenders of the business

entity focus on solvency. The analytical presentation in this context is availed by ratio analysis, where debt-equity ratio, total assets-debt raito etc. are included.

(6) **To know operating efficiency of business entity :** Different types of assets are acquired by the business entity. For measurement of effective and efficient use of assets, ratio analysis is useful. For this, turnover ratios are used. e.g. stock turnover ratio.

(7) **For forecasting :** The trend of respective item can be seen by ratio analysis. e.g. during last 5 years the gross profit rate is 20 %, 23 %, 24 %, 26 % and 29 % respectively. Here, it is observed that there is a growth in the gross profit ratio during the last five years. This indicates favourable trend for a company. This trend can be useful to the company to undertake planning and forecast.

(8) **The information about weak aspect :** There may be over all good result of the business entity. Out of different aspects like profitability, liquidity, solvency or efficiency, there may be weak performance of any one aspects and good performance of any other aspects. Thus the average result will be satisfactory. But under ratio analysis each aspects is evaluated individually. So the information for weak aspect can be obtained and necessary remedies can be undertaken.

(9) **For interfirm and intrafirm comparison :** The comparison of the operating performance of a business entity with the other business entities is known as interfirm comparison. This ratio analysis assists to know how and to what extent a business entity is strong or weak as compared to the other business entity. This can be obtained by ratio analysis. When the comparison among different divisions of a business entity is done, it is known as intrafirm comparison. This ratio analysis is useful to know which division is strong and which one is weak as compared to the other division of the business entity.

Ratio analysis is used for different objectives. The uses of ratio analysis, explain its significance.

4. Limitations of Ratio Analysis

Ratio analysis is a traditional tool for measurement of different aspects of a business. Through it, the strengths and weaknesses of business entity are measured. This tool has limitations also. They are discussed as under :

(1) **Dependent on results of financial statements :** Under ratio analysis the evaluation of different aspects is done on the basis of information of financial statements. The success of this analysis is based on information disclosed in the financial statements. If true and fair information is not disclosed by the financial statements, the analysis would also present incorrect picture.

(2) **Absence of standard ratios :** Any individual ratio does not provide any analysis or interpretation. The use of ratio can be established only when the standard ratios are available for comparison. If standard ratios are not determined, the computed ratios become useless. Thus, the absence of standard ratios show uselessness of ratio analysis.

(3) **Influence of price changes :** The base of ratio analysis is financial statements. Financial statements are prepared with historical information. In historical information, the effect of inflation is not considered. Thus, price changes are not considered in ratio analysis also. This is also a limitation.

(4) Avoidance of qualitative factors : Ratio analysis is a method of quantitative analysis. Ratio analysis is purely based on quantitative information, but the qualitative aspects for measurement of operating results like honesty, loyalty, tempo which are strongly associated with employees or officers or management are ignored. These factors also have influence on the operation of the business entity.

(5) Difficulty in comparison : When two business entities, follow different accounting policies, the information obtained by ratio analysis becomes useless. e.g. the use of different methods like depreciation or stock valuation by two business entities. In these circumstances, the use of ratio analysis does not become useful.

5. Presentation of Ratios

The presentation of ratios can be done in different ways. These forms are as follows :

(1) In terms of proportion : Under this form two amounts are used on the basis of their relation. One amount is used as numerator and the other one is as denominator and then the proportion is determined. e.g. To measure liquidity current ratio is used, its formula is as follows.

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

e.g. current assets are of ₹ 3,00,000 and current liabilities of ₹ 2,00,000.

$$= \frac{3,00,000}{2,00,000}$$

$\therefore$ Current ratio is 1.5.

It means current ratio is 1.5:1. It explains that, where against current assets of ₹ 1.5, current liability is ₹ 1.

(2) In terms of percentage : In this form also two variables are used on the basis of their relation; one amount is used as numerator, another one as denominator and then percentages are determined. e.g. Net profit ratio, its formula is as follows :

$$\text{Net profit ratio} = \frac{\text{Net profit}}{\text{Sales}} \times 100$$

e.g. sales is of ₹ 3,00,000 and net profit is of ₹ 60,000

$$= \frac{60,000}{3,00,000} \times 100 = 20\ \%$$

$\therefore$ Net profit ratio is 20 %. It shows that ₹ 20 profit is earned from the sales of ₹ 100.

(3) In terms of times : Like proportion, here also one amount is disclosed as numerator and another is disclosed as denominator. But here the interpretation of ratio is in terms of time. This term is used for special type of components of accounting. e.g. stock turnover, its formula is as follows :

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

e.g. cost of goods sold is ₹ 3,00,000 and average stock is ₹ 1,00,000.

$$= \frac{3,00,000}{1,00,000} = 3 \text{ times}$$

Stock turnover is 3 times, it means the stock of business is converted 3 times into cost of goods sold.

.(4) **In terms of fraction :** To determine the proportion of one component against the other component, this form is used. e.g. The share capital of business unit is ₹ 5,00,000. Non-current assets of business are $\frac{2}{5}$ of share capital.

In these circumstances,

$$\text{Non-current assets} = \text{Share capital} \times \text{Share of non-current assets in share capital}$$
$$= 5,00,000 \times \frac{2}{5}$$
$$= ₹\ 2,00,000$$

(5) In terms of days/weeks/months : In accounting, through certain ratios time period is determined. This time period is calculated in terms of days, weeks and months. This ratio provides information about collection period and payment period. e.g. the formula of collection period is as follows :

$$\text{Collection period} = \frac{\text{Debtors} + \text{Bills receivables}}{\text{Credit sales}} \times 365$$

e.g. Debtors are of ₹ 50,000, bills receivable ₹ 23,000 and credit sales ₹ 7,30,000

$$= \frac{50,000 + 23,000}{7,30,000} \times 365$$

$$= \frac{73,000}{7,30,000} \times 365 = 36.5 \text{ days means } 37 \text{ days}$$

The collection period is 37 days. It shows that the amount of every credit sales will be paid by debtors on 37th day from the date of sales.

Thus the computation or presentation of the ratios can be done in different ways. It is imporatant to note that all ratios can not be computed in all forms. e.g. The ratios of proportion can not be disclosed in the time form and vice versa. The detailed discussion in this regard is done under the head classification of ratios.

6. Classification of Ratios

The classification of ratios can be done into two categories :

(i) Traditional classification

(ii) Functional classification

The detailed explanation is as folllows :

(i) Traditional Classification : The computation of accounting ratios is done on the basis of financial statements. In these statements, trading account, profit and loss account and balance sheet are included. (Now in the company form income statement and balance sheet are prepared.) As per traditional classification,

(1) Ratios of trading A/c and profit and loss A/c

(2) Ratios of balance sheet

(3) Composite ratios are covered.

For computation of ratios of trading A/c and profit and loss A/c, both numerator and denominator are from trading A/c and profit and loss A/c. e.g. Net profit ratio, net profit and sales both components are from trading A/c and profit and loss A/c. For computation of ratios of balance sheet, both numerator and denominator are from balance sheet. e.g. Debt-equity ratio. Both components are of balance sheet. In case of third type, one component is from trading A/c or profit and loss A/c and second component is from the balance sheet. e.g. Fixed assets turnover. In this ratio assets are from balance sheet and sales is from trading A/c.

(ii) Functional Classification : To measure financial health or to acquire information about different aspects of accounting of business entity, ratio analysis is used. These aspects include

(1) Profitability (3) Solvency

(2) Liquidity (4) Efficiency

This aspects measure performance of the business entity according to their name. This classification is known as functional classification. In this classification profitability ratios, liquidity ratios, solvency ratios and efficiency ratios are included. Each aspect is a result of specific performance. In practice this classification is widely used. In this book explanation is given as per functional classification. Only functional classification is expected. On the basis of this classification all ratios are explained as under.

7. Profitability Ratios

The main objective of every business is to earn profit. The earning capacity of the company is known as profitability. There are diffirent ratios to measure profitability.

As per the syllabus, the following profitability ratios are to be studied. Generally these ratios are calculated in terms of percentage.

(i) Gross profit ratio

(ii) Operating ratio

(iii) Operating profit ratio

(iv) Net profit ratio

(i) Gross profit ratio :

Meaning : Gross profit ratio discloses the relation between gross profit and total net sales. Gross profit ratio is an income based ratio. Where gross profit is an income and its proportion to sales (is also income) is determined. This ratio indicates percentage of gross profit to sales. Sales means revenue from operation. Operating income means the income which is generated from the business in which company deals. Sales means net sales (sales less sales return).

What is total sales ? Credit sales + Cash sales

What is gross profit ? Gross profit means excess of sales over cost of goods sold.

What is cost of goods sold ? Cost of goods sold is determined as follows :

Opening stock of raw metarial	✓
+ Purchase of raw metarial	✓
+ Purchase expense	✓
	✓
− Closing stock of raw material	✓
Cost of goods consumed	✓
+ Wages	✓
+ Factory expenses	✓
Cost of goods sold	✓

Note : (1) For determination of cost of goods sold, production expenses are considered for manufacturing units. Trading units do not have production expenses. Therefore for trading units cost of goodsconsumed is treated as cost of goods sold. (2) Instead of disclosure of opening stock and closing stock, how changes in stock are disclosed is discussed in the previous chapter.

(1) Change in stock = Opening stock > Closing stock

Positive difference : Added to cost of goods sold or deducted from income

(2) Change in stock = Opening stock < Closing stock

Negative difference : Deducted from cost of goods sold or added to income

Note : Negative amount (figures) are shown in bracket.

Gross profit = Total net sales − Cost of goods sold

Formula : Gross profit ratio $= \frac{\text{Gross profit}}{\text{Total net sales}} \times 100$

Objective : Gross profitability of the business can be measured through gross profit ratio.

Trend : It is income based ratio. Thus it's increasing trend indicates enhancement in profitability.

Illustration 1 : Calculate gross profit ratio from the given information of **'Z'** Co. Ltd.

Particulars	2016 (₹)	2017 (₹)
Sales	4,80,000	6,00,000
Gross profit	1,20,000	1,80,000

Note : Question can also be asked on the basis of information of one year.

Ans. :

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

$$= \frac{1,20,000}{4,80,000} \times 100 \qquad = \frac{1,80,000}{6,00,000} \times 100$$

25 % 30 %

Interpretation : (i) As compared to previous year gross profit ratio is increased from 25 % to 30 %. It indicates growth in gross profitability.

(ii) Gross profit = Sales − Cost of goods sold

2016 : 25 % = 100 % − 75 %

2017 : 30 % = 100 % − 70 %

It can be said that as compared to the previous year cost of goods sold is reduced in current year from 75 % to 70 %. Therefore gross profit rate is increased.

Illustration 2 : From the given information of **'O'** business entity calculate gross profit ratio.

Particulars	2016 (₹)	2017 (₹)
Sales	8,00,000	12,00,000
Cost of goods sold	6,00,000	10,00,000

Ans. :

Gross profit is not provided. Thus gross profit is required to be calculated.

Gross profit = Sales − Cost of goods sold

2016 : 2,00,000 = 8,00,000 − 6,00,000

2017 : 2,00,000 = 12,00,000 − 10,00,000

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Total net Sales}} \times 100$$

2016	2017
$= \frac{2,00,000}{8,00,000} \times 100$	$= \frac{2,00,000}{12,00,000} \times 100$
$= 25\ \%$	$= 16\frac{2}{3}\ \%\ (16.66...\ \%)$

Illustration 3 : Information of two years of **'Q'** company is as follows. Calculate gross profit ratio.

Particulars	2016 (₹)	2017 (₹)
Sales	10,20,000	15,50,000
Sales return	20,000	50,000
Opening stock	1,40,000	1,60,000
Purchase	6,00,000	8,00,000
Purchase expenses	30,000	40,000
Closing stock	1,60,000	1,50,000

Ans. :

To calculate gross profit ratio, gross profit is to be ascertained by preparing income statement :

Particulars	2016		2017	
Net sales : Sales	10,20,000		15,50,000	
Less : Sales return	20,000	10,00,000	50,000	15,00,000
Less : Cost of goods consumed				
Opening stock	1,40,000		1,60,000	
Purchase	6,00,000		8,00,000	
Purchase expenses	30,000		40,000	
	7,70,000		10,00,000	
Less : Closing stock	1,60,000	6,10,000	1,50,000	8,50,000
Gross profit		**3,90,000**		**6,50,000**

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Net sales}} \times 100$$

$$= \frac{3,90,000}{10,00,000} \times 100 \qquad = \frac{6,50,000}{15,00,000} \times 100$$

$$= 39\ \% \qquad = 43.33\ \%$$

Illustration 4 : Two years information of **'F'** & Co. is given below. Calculate gross profit ratio.

Particulars	2016 (₹)	2017 (₹)
Sales	10,20,000	15,50,000
Sales return	20,000	50,000
Purchase	6,00,000	8,00,000
Purchase expenses	30,000	40,000
Changes in stock	(20,000)	10,000

Ans. :

To calculate gross profit ratio, gross profit is to be ascertained by preparing income statement.

Particulars	2016		2017	
Net Sales : Sales	10,20,000		15,50,000	
Less : Sales return	20,000	10,00,000	50,000	15,00,000
Less : Cost of goods consumed				
Purchase	6,00,000		8,00,000	
Purchase expenses	30,000		40,000	
Changes in stock	(20,000)	6,10,000	10,000	8,50,000
Gross profit		**3,90,000**		**6,50,000**

$$\text{Gross profit ratio} = \frac{\text{Gross profit}}{\text{Sales}} \times 100 \qquad \frac{3,90,000}{10,00,000} \times 100 \qquad \frac{6,50,000}{15,00,000} \times 100$$

$$= 39\ \% \qquad = 43.33\ \%$$

Note : To explain the treatment of stock, the details except stock of illustration 3 and 4 are kept identical.

(ii) Operating ratio :

Meaning : Operating ratio discloses the relation of operating cost and sales. Operating ratio is cost (expense) based ratio. This ratio shows proportion of operating cost to sales.

What is operating cost ? Operating cost = Cost of goods sold + Operating expenses

What are the operating expenses ? Operating expenses are those expenses which are incurred for operating activities of business, where office expenses (administrative expense), sales distribution expenses, employees benefit expenses, depreciation, amount written off etc. are included.

Note : Non-operating incomes like interest received, dividend received, profit on sales of asset are not considered during the determination of operating cost. The interest paid and loss on sale of assets

are also not considered. Interest expense is financial expense, not an operating expense. Loss on sale of asset is other expense, not operating expense.

To avoid the dilemma of students, non-operating expenses and incomes should be clearly stated.

Formula : Operating ratio $= \frac{\text{Cost of goods sold + Operating expenses}}{\text{Net sales}} \times 100$

Objective : This ratio explains the operating cost of business entity, the business in which the unit is engaged. e.g. A company manufactures and sales textile, would acquire information about production cost of textile. If production cost is more than pre determined cost, necessary efforts are made to control it.

Trend : The decreasing trend of this ratio is favourable which indicates increasing operating profitability.

Illustration 5 : From the following information calculate operating ratio of **'E'** Company.

Cost of goods sold ₹ 4,80,000, operating expenses ₹ 1,20,000, financial expenses ₹ 1,00,000 and sales ₹ 8,00,000.

Ans. : Operating ratio $= \frac{\text{Cost of goods sold + Operating expenses}}{\text{Net sales}} \times 100$

$= \frac{4,80,000 + 1,20,000}{8,00,000} \times 100$

$= 75\ \%$

Note : Financial expenses are not considered as operating expenses.

Illustration 6 : From the given information of **'K'** & Company Limited calculate operating ratios of two years :

Particulars	2016 (₹)	2017 (₹)
Sales	15,00,000	20,00,000
Cost of goods sold	7,50,000	9,00,000
Administrative expenses	1,00,000	1,50,000
Sales expenses	2,50,000	3,00,000
Depreciation	1,00,000	1,00,000
Financial expenses	1,00,000	1,00,000
Income of interest - Dividend	2,00,000	2,00,000
Other expenses (Non-operating)	50,000	50,000

Ans. :

Computation of Operating Expenses

Particulars	2016 (₹)	2017 (₹)
Administrative expenses	1,00,000	1,50,000
Sales expenses	2,50,000	3,00,000
Depreciation	1,00,000	1,00,000
	4,50,000	**5,50,000**

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

$$= \frac{7,50,000 + 4,50,000}{15,00,000} \times 100 \qquad = \frac{9,00,000 + 5,50,000}{20,00,000} \times 100$$

$$= \frac{12,00,000}{15,00,000} \times 100 \qquad = \frac{14,50,000}{20,00,000} \times 100$$

$$= 80\ \% \qquad = 72.5\ \%$$

As compared to the previous year, reduction in operating ratio, it discloses increase in profit.

Illustration 7 : From the following information of **'S'** Limited calculate operating ratio.

Net sales ₹ 28,00,000; cost of goods sold ₹ 18,00,000; salary ₹ 1,20,000; other administrative expenses ₹ 1,80,000; sales expenses ₹ 1,50,000; interest on loan ₹ 1,25,000; loss due to fire ₹ 25,000; interest income on investments ₹ 1,80,000

Ans. :

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

Operating expenses =	Salary	₹ 1,20,000
	Other administrative expenses	₹ 1,80,000
	Sales expenses	₹ 1,50,000
		₹ 4,50,000

$$= \frac{18,00,000 + 4,50,000}{28,00,000} \times 100$$

$$= \frac{22,50,000}{28,00,000} \times 100$$

$$= 80.36\ \%$$

(iii) Operating Profit Ratio :

Meaning : This ratio discloses relationship between operating profit and sales. This is an income based ratio. This ratio shows the proportion of operating profit to sales.

What is the operating profit ? Sales − Operating cost

Formula : $\text{Operating profit ratio} = \frac{\text{Operating profit}}{\text{Net sales}} \times 100$

Objective : This ratio indicates that how much is profit earned by the unit, from the business in which unit deals. To determine this ratio in alternative way, assume the sales as 100 % and deduct operating ratio from it, the remaining percentage will be operating profit ratio.

Trend : Since this ratio is income based, the increasing trend of it indicates enhancement in profit.

Illustration 8 : From the following information of **'H'** Limited, calculate operating profit ratio.

Sales ₹ 7,50,000, cost of goods sold ₹ 3,00,000, operating expenses ₹ 1,50,000

Ans. :

$$\text{Operating profit ratio} = \frac{\text{Operating profit}}{\text{Sales}} \times 100$$

Operating profit = Sales − Operating cost

Operating cost = Cost of goods sold ₹ 3,00,000
+ Operating expenses ₹ 1,50,000
₹ 4,50,000

= ₹ 7,50,000 − ₹ 4,50,000

= ₹ 3,00,000

$$\frac{3,00,000}{7,50,000} \times 100 = 40\ \%$$

OR

Operating profit ratio = 100 % − Operating ratio

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

$$= \frac{4,50,000}{7,50,000} \times 100 = 60\ \%$$

= 100 % − 60 % = 40 %

Illustration 9 : From the information of **'J'** Company Ltd. given below, calculate operating profit ratio.

Opening stock ₹ 60,000, purchase ₹ 5,00,000, purchase expenses ₹ 20,000, office expenses ₹ 50,000, interest paid ₹ 15,000, dividend received ₹ 15,000, Depreciation ₹ 40,000, loss due to accident ₹ 10,000, sales ₹ 8,00,000, closing stock ₹ 70,000, sales return ₹ 30,000, income tax rate 30 %.

Ans. :

$$\text{Operating profit ratio} = \frac{\text{Operating profit}}{\text{Sales}} \times 100$$

Operating profit = Net Sales − Operating cost

Net Sales = Sales − Sales return

= 8,00,000 − 30,000

= ₹ 7,70,000

Operating cost = Opening stock	₹	60,000
+ Purchase	₹	5,00,000
+ Purchase expenses	₹	20,000
	₹	5,80,000
− Closing stock	₹	70,000
Cost of goods sold	₹	5,10,000
+ Office expenses	₹	50,000
+ Depreciation	₹	40,000
	₹	6,00,000

= 7,70,000 − 6,00,000

= ₹ 1,70,000

$$= \frac{1,70,000}{7,70,000} \times 100 = 22.08\ \%$$

(iv) Net Profit Ratio :

Meaning : This ratio discloses the relationship between net profit and sales. This is an income based ratio. This ratio shows the percentage of net profit to sales.

What is net profit ? The amount remaining after deducting all the expenses from the total income. This profit can be calculated as under :

Particulars	(₹)	(₹)
Sales	✓	
Less : Sales return	✓	
Net sales		✓
Add : Non-operating income		✓
Total income		✓
Less : Cost of goods sold	✓	
Operating expenses	✓	
Financial expenses	✓	
Non-operating expenses	✓	✓
Profit before tax		✓
Less : Income tax		✓
Profit after tax		✓

Formula : Net profit ratio $= \frac{\text{Net profit after tax}}{\text{Net sales}} \times 100$

Objective : The overall profitability of business can be seen through this ratio. All incomes and expenses are considered.

Trend : Since this ratio is income based, increasing trend of it indicates enhancement in total profitability. (Net profitability)

Illustration 10 : From the given information in illustration no. 9, calculate net profit ratio.

Net profit ratio $= \frac{\text{Net profit after tax}}{\text{Net sales}} \times 100$

	(₹)	(₹)
Sales	8,00,000	
Less : Sales return	30,000	
Net sales		7,70,000
Add : Non-operating income : Dividend		15,000
Total income		7,85,000
Less : Cost of goods sold		
Opening stock	60,000	
+ Purchase	5,00,000	
+ Purchase expenses	20,000	
	5,80,000	
− Closing stock	70,000	
	5,10,000	

+ Operating expenses :		
Office expenses	50,000	
Depreciation	40,000	
+ Financial expenses :		
Interest	15,000	
+ Other expenses :		
Loss due to accident	10,000	6,25,000
Profit before tax		1,60,000
Less : Tax 30 %		48,000
Profit after tax		**1,12,000**

$\frac{1,12,000}{7,70,000} \times 100 = 14.55\ \%$

8. Liquidity Ratios

The basic objective of every business is to earn profit. The creditworthiness provides fuel to the earning capacity of the business. The credit worthiness depends upon the financial solvency of the company. In accounting the solvency is determined with two view points : (i) long-term solvency and (ii) short-term solvency. Short-term solvency is known as liquidity. Liquidity means the ability of business unit to pay short-term liabilities. Short-term liabilities means current liabilities. As per the syllabus the following ratios are to be studied. Generally, these ratios are presented in terms of proportion.

(i) Current Ratio

(ii) Liquid Ratio

(i) Current Ratio :

Meaning : Current ratio shows relation between current assets and current liabilities. What is the proportion of current liabilities against current assets is indicated by this ratio. It can be said that the liquidity position of business entity is good, if the proportion of current assets is higher than current liabilities. More liquidity means more short-term solvency.

Formula : Current ratio $= \frac{\text{Current assets}}{\text{Current liabilities}}$

Current assets means which is in the cash form or cash equivalent or which can be converted into cash within 12 months or which can be converted into cash equivalent. The following can be included in it.

Current investments, stock (excluding loose tools), trade receivables (bills receivable and debtors after deduction of bad debts reserve) cash and cash equivalent (cash on hand, bank balance, cheque/ draft on hand), short-term lending and advances, expenses paid in advance, incomes outstanding, taxes paid in advance etc.

Current liabilities means such liabilities which are payable within the time period of 12 months.

Short-term borrowings, trade payables (bills payable and creditors), interest payable on long-term liabilities, due but not paid liability, due but not paid interest, expenses outstanding, uncalled dividend, instalments received in advance, short-term provisions are included in current liabilities.

Objective : The objective of this ratio is to know the capacity of the business unit to pay short-term obligation.

Trend : The proportion of this ratio varies industry to industry. Generally 2:1 proportion of this ratio is considered to be an ideal. If this ratio is greater than the standard, it indicates the loss of interest and the lower ratio than the standard creates interruption in manufacturing process. Thus, its standard proportion is desirable.

The difference of current assets and current liabilities is known as working capital. Working capital also used for the measurement of liquidity.

In brief, Current assets / Current liabilities = Current ratio (in proportion)

Current assets − Current liabilities = Working capital (₹)

Illustration 11 : From the following information of **'P'** Company Ltd., calculate current ratio.

Debtors ₹ 1,80,000, bills receivables ₹ 30,000, bad debts reserve ₹ 10,000, stock ₹ 30,000, cash and cash equivalent ₹ 45,000, machinery ₹ 1,20,000, furniture ₹ 90,000, bills payable ₹ 20,000, short-term loan ₹ 90,000, outstanding expenses ₹ 27,500.

Ans. :

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

		(₹)	(₹)
Current assets :	Debtors	1,80,000	
	Bills receivables	30,000	
		2,10,000	
	− Bad debts reserve	10,000	2,00,000
	Stock		30,000
	Cash and cash equivalent		45,000
			2,75,000
Current liabilities :	Bills payables	20,000	
	Short-term loan	90,000	
	Outstanding expenses	27,500	
			1,37,500

$$= \frac{2,75,000}{1,37,500} = 2:1$$

Analysis : **'P'** Company has the current assets of ₹ 2 to pay the current liabilities of ₹ 1. The receivable is ₹ 2 and the payable is ₹ 1. When the current assets are more than the current liabilities, it indicates short-term solvency. Here the answer of current ratio is shown 2:1. If only 2 was disclosed, then also the meaning does not change. When the numerator is divided by the denominator and the answer arrived at is 1, which is always for the denominator. Here the denominator is 1 against which the proportion of numerator 2.

Illustration 12 : From the following information of **'R. K.'** Ltd., calculate current ratio and working capital.

Particulars	(₹)	Particulars	(₹)
Debtors	90,000	Bills receivables	30,000
Land-building	5,00,000	Furniture	60,000
Outstanding expenses	40,000	Non-current investments	70,000
Current investments	30,000	Cash and cash equivalent	30,000
Creditors	60,000	Bills payables	20,000
Bad debts reserve	20,000	Stock	60,000

Ans. :

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

		(₹)	(₹)
Current assets :	Debtors	90,000	
	Bills receivables	30,000	
		1,20,000	
	− Bad debts reserve	20,000	1,00,000
	Current investments		30,000
	Cash and cash equivalent		30,000
	Stock		60,000
			2,20,000
Current liabilities :	Outstanding expenses		40,000
	Creditors		60,000
	Bills payables		20,000
			1,20,000

$$= \frac{2,20,000}{1,20,000} = 1.83$$

Working capital = Current assets − Current liabilities

= ₹ 2,20,000 − ₹ 1,20,000

= ₹ 1,00,000

Illustration 13 : From the following information of **'M'** Ltd., calculate current ratio.

Current assets ₹ 1,50,000, working capital ₹ 60,000

Ans. :

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Current assets are of ₹ 1,50,000

Current liabilities are not given, but working capital is given.

Working capital = Current assets − Current liabilities

₹ 60,000 = ₹ 1,50,000 − Current liabilities

∴ Current liabilities = Current assets − Working capital

∴ Current liabilities = ₹ 1,50,000 − ₹ 60,000

∴ Current liabilities = ₹ 90,000

$$\frac{1,50,000}{90,000} = 1.67 : 1$$

(ii) Liquid Ratio :

Meaning : Liquid ratio shows relation between liquid assets and current liabilities. This ratio indicates the proportion of liquid assets against current liabilities. This ratio also discloses the liquidity of the business entity. From the current assets the stock and expenses paid in advance are deducted, the balancing figure is liquid assets.

Note : Here, current assets excluding stock and expenses paid in advance are considered to determine liquid assets.

Formula : Liquid ratio $= \dfrac{\text{Liquid assets}}{\text{Current liabilities}}$

Liquid assets are such assets which are easily convertible in cash and cash equivalent.

Current liabilities which are considered for current ratio, are also considered for this ratio.

Objective : The objective of this ratio is also to measure liquidity. The purpose is to measure capacity to pay short-term liabilities. This ratio indicate batter capacity in paying short-term liabilities than the current ratio. This ratio is also known as quick ratio. There is no time period of 12 months prescribed for the conversion of assets into cash. Thus, this ratio is faster than current ratio to pay short-term liabilities.

Trend : Generally, the proportion of this ratio 1:1 is desirable.

Illustration 14 : From the following information of **'S. L.'** Limited, calculate liquid ratio.

Particulars	(₹)	Particulars	(₹)
Current liabilities	1,60,000	Current assets	2,00,000
Stock	30,000	Expenses paid in advance	10,000
Debtors	20,000	Bills receivables	15,000

Ans. :

Liquid ratio $= \dfrac{\text{Liquid assets}}{\text{Current liabilities}}$

	(₹)	(₹)
Liquid assets : Current assets		2,00,000
Less : Stock	30,000	
Expenses paid in advance	10,000	40,000
		1,60,000

$= \dfrac{1,60,000}{1,60,000} = 1:1$

Illustration 15 : From the following information of **'I'** Limited, calculate current ratio and liquid ratio.

Particulars	(₹)	Particulars	(₹)
Cash and cash equivalent	1,80,000	Creditors	2,00,000
Debtors	1,20,000	Bills payables	1,00,000
Bills receivables	60,000	Outstanding expenses	80,000
Stock	1,40,000	Taxation provision	80,000
Current investments	1,00,000		

Ans. :

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

	(₹)	(₹)
Current assets : Cash	1,80,000	
Debtors	1,20,000	
Bills receivables	60,000	
Current investments	1,00,000	
Stock	1,40,000	
	6,00,000	
Current liabilities : Creditors	2,00,000	
Bills payables	1,00,000	
Outstanding expenses	80,000	
Taxation provision	80,000	
	4,60,000	

$$= \frac{6,00,000}{4,60,000} = 1.30 : 1$$

$$\text{Liquid ratio} = \frac{\text{Liquid assets}}{\text{Current liabilities}}$$

Liquid assets : Current assets		6,00,000
Less : Stock		1,40,000
		4,60,000

$$= \frac{4,60,000}{4,60,000} = 1 : 1$$

Relation of current assets and current liabilities with current ratio :

The current ratio emerges from two variables : (i) current assets and (ii) current liabilities. Thus, there is an influence of change in current assets and current liabilities on current ratio. This influence is as follows :

Increase in current assets → Increase in current ratio
Decrease in current assets → Decrease in current ratio

This relation shows that there is a direct relation between the current assets and the current ratio.

Increase in current liabilities → Decrease in current ratio
Decrease in current liabilities → Increase in current ratio

This relation shows that there is an inverse relation between the current liabilities and the current ratio.

Note : The relation between the liquid assets and the current liabilities with liquid ratio is also the same.

Increase in liquid assets → Increase in liquid ratio
Decrease in liquid assets → Decrease in liquid ratio
and
Increase in current liabilities → Decrease in liquid ratio
Decrease in current liabilities → Increase in liquid ratio

9. Solvency Ratios

Generally economic or financial solvency is considered in the context of long-term. Solvency is used to measure economic health of business entity. This ratio is used to measure how far the business entity is competent enough to pay long-term liabilities. This ratio is computed for economic aspects. As per the syllabus the following ratios are to be studied. These ratios are disclosed in terms of proportion.

(i) Debt to equity ratio

(ii) Total assets to debt ratio

(iii) Proprietory ratio

(iv) Interest coverage ratio

(i) Debt to equity ratio :

Meaning : Debt to equity ratio shows relation between debt and equity (shareholders' funds). This ratio indicates the proportion of equity against debt. Here, equity means shareholders' funds. Equity share capital and reserves and surplus are included in shareholders' funds. A business entity is considered as solvent, when the proportion of equity is greater than debt, business entity is considered as less solvent when the proportion of the equity is less than the debt.

$$\text{Formula : } \frac{\text{Debt (Non-current / long-term liabilities)}}{\text{Equity (Shareholders' funds)}}$$

The equity and liabilities side of balance sheet shows three divisions.

(1) Shareholders' funds (2) Non-current liabilities (3) Current liabilities

Shareholders' funds and non-current liabilities are the long-term sources of funds of a business entity. That remains for long-time in business. These are not proccured every year. But shareholders' funds are owners' funds and non-current liabilities are the liabilities towards external parties. Both are long-term sources of finance but are different from ownership viewpoint.

Here, liabilities means long-term liabilities where (i) long-term borrowings (ii) deferred tax liability (iii) other long-term liability and (iv) long-term provisions are included. **(But for computation of this ratio deferred tax liability and other long-term liabilities will not be considered. Thus, these two items should not be included.)**

Shareholders' funds = Equity share capital + Preference share capital + Reserves and surplus

If debit balance of profit and loss account is appeared in the balance sheet, it will be deducted for the determination of shareholders' funds. Then the arrived amount of shareholders' funds will be used to compute this ratio. Preference share capital is included in shareholders' funds.

Objectives : The objective of this ratio is to know the proportion of owners capital (shareholders' funds) and borrowed funds (non-current liabilities) which are acquired by the business as a long-term sources of finance.

Trend : There is no standard measure for this ratio. This varies industry to industry. If this ratio is higher, it indicates that the business unit is more dependent on the borrowed funds and if this ratio is lower, it indicates that the business unit is less dependent on the borrowed capital. If this ratio is reported high, it is risky for the lenders and if it is reported low, it is less risky for the lenders to lend their funds.

Balance Sheet

Equity-Liabilities	Companies		
	X	**Y**	**Z**
(A) Shareholders' funds	25 %	37.5 %	50 %
(B) Nonc-current liabilities	50 %	37.5 %	25 %
(C) Current liabilities	25 %	25 %	25 %
Total	**100 %**	**100 %**	**100 %**
Assets	**Companies**		
	X	**Y**	**Z**
(A) Non-current assets	100 %	100 %	100 %
(B) Current assets			
Total	**100 %**	**100 %**	**100 %**

Debt-Equity ratio = $\frac{\text{Liabilities (Long-term liabilities)}}{\text{Shareholders' funds}}$

(1) In case of X company, the proportion debt is higher against shareholders' funds, thus it is less solvent than Y and Z.

(2) Y company has less debt than that of X, thus it is more solvent against X company but less solvent against Z company.

(3) Z has the lowest debts against all companies, thus it is more solvent.

X	**Y**	**Z**
$\frac{50}{25}$	$\frac{37.5}{37.5}$	$\frac{25}{50}$
2 : 1	1 : 1	0.50 : 1

When in question total liabilities are given with a view to arrive at non-current liabilities deduct current liabilities from it.

Illustration 16 : From the following information of **'F. L.'** Ltd., calculate debt equity ratio.

Particulars	(₹)	**Particulars**	(₹)
Equity share capital	10,00,000	Outstanding expenses	1,00,000
General reserve	6,00,000	Long-term loan	2,00,000
Profit-loss A/c	4,00,000	Long-term provisions	2,00,000

Ans. :

$$\text{Debt to Equity ratio} = \frac{\text{Liabilities (Long-term liabilities)}}{\text{Equity (Shareholders' funds)}}$$

Liabilities : (Non-current liabilities)

Long-term loan	₹	2,00,000
Long-term provisions	₹	2,00,000
	₹	**4,00,000**

Equity (Shareholders' funds) :

Equity share capital	₹	10,00,000
General reserve	₹	6,00,000
Profit-loss A/c	₹	4,00,000
	₹	**20,00,000**

$$\frac{4,00,000}{20,00,000} = 0.20 : 1$$

Against owners' funds of ₹ 1 of the business entity, non-current liability is ₹ 0.20.

Note : Outstanding expenses and current liability, will not be included in debt-equity. Only non-current liabilities will be considered.

Illustration 17 : From the following information of **'N'** Company, calculate debt-equity ratio.

Total Assets ₹ 25,00,000, Long-term loan ₹ 6,00,000

Long-term provisions ₹ 4,00,000, Current liabilities ₹ 5,00,000

Ans. :

$$\text{Debt-Equity ratio} = \frac{\text{Debt (Long-term liabilities)}}{\text{Equity (Shareholders' funds)}}$$

	₹	₹
Non-current liabilities : Long-term loan		6,00,000
Long-term provisions		4,00,000
		10,00,000
Equity (Shareholders' funds) :		
Total Assets		**25,00,000**
Less :		
Long-term loan	6,00,000	
Long-term provisions	4,00,000	
Current liabilities	5,00,000	15,00,000
		10,00,000

$$\frac{10,00,000}{10,00,000} = 1 : 1$$

Explanation : Equity (shareholders' funds) can also be calculated by preparing balance sheet.

Balance Sheet

Equity-Liabilities	Amt. (₹)	Assets	Amt. (₹)
Equity shareholders' funds	10,00,000	Assets	25,00,000
Non-current liabilities	6,00,000		
Long-term provisions	4,00,000		
Current liabilities	5,00,000		
	25,00,000		**25,00,000**

Illustration 18 : From the following information of **'R'** Co. Ltd., calculate debt-equity ratio.

Particulars	(₹)	Particulars	(₹)
Non-current assets	28,00,000	Creditors	90,000
Current assets	17,00,000	Bills payables	40,000
Total liabilities	15,00,000	Outstanding expenses	70,000

Ans. :

$$\text{Debt-Equity ratio} = \frac{\text{Debt (Long-term liabilities)}}{\text{Equity (Shareholders' funds)}}$$

	₹	₹
Debt : Non-current liabilities (Long-term liabilities)		
Total debts		15,00,000
Current liabilities :		
Less : Creditors	90,000	
Bills payables	40,000	
Outstanding expenses	70,000	2,00,000
		13,00,000
Equity = Total Assets – Total liabilities		
Non-current assets		28,00,000
Current assets		17,00,000
		45,00,000
Less : Total liabilities		15,00,000
		30,00,000

$$\frac{13,00,000}{30,00,000} = 0.43 : 1$$

Explanation : Computation through balance sheet.

Balance Sheet

Equity-Liabilities	Amt. (₹)	Assets	Amt. (₹)
Equity Shareholders' funds	30,00,000	Non-current assets	28,00,000
Non-current liabilities	13,00,000	Current assets	17,00,000
(See working given above)			
Current liabilities	2,00,000		
	45,00,000		**45,00,000**

(ii) Total Assets to Debt Ratio :

Meaning : Total Assets to debt ratio shows relation between total Assets and debt (Non-current liabilities). Out of total assets, the proportion of assets acquired by debt, can be ascertained from this ratio.

Formula : Total Assets to Debt ratio $= \frac{\text{Total Assets}}{\text{Debt (Long-term liabilities)}}$

To determine total assets, other non-current assets are not to be considered. (e.g. trade receivables of more than 12 months, expenses not written off etc.)

To determine debt, non-current liabilities are to be considered but other long-term liabilities are not to be considered. (e.g. payables of more than 12 months, debenture redemption premium (when debentures are disclosed under the head of long-term liabilities.)).

Objectives : It can be ascertained that out of total assets, what proportion of total assets is acquired through non-current liabilities.

Trend : There is no standard measure for this ratio. This ratio indicates reverse trend to trend of debt euqity ratio. Generally, when this ratio is higher, it is less risky to the lenders to lend their funds and if it is lower it is more risky to lend funds.

Balance Sheet

Equity-Liabilities	Companies		
	X	Y	Z
(A) Shareholders' funds	25 %	37.5 %	50 %
(B) Liabilities (Non-current liabilities)	50 %	37.5 %	25 %
(C) Current liabilities	25 %	25 %	25 %
Total	**100 %**	**100 %**	**100 %**
Assets	**Companies**		
	X	**Y**	**Z**
Non-current assets and Current assets	100 %	100 %	100 %
Total	**100 %**	**100 %**	**100 %**

Total assets-debt ratio $= \frac{\text{Total Assets}}{\text{Debt (Long-term liabilities)}}$

(1) X company has acquired 50 % assets from debt, X company is less solvent as compared to Y and Z company.

(2) Y company has less debt, thus it is more solvent as compared to X company.

(3) The quantum of debt is lowest in case of Z company, thus it is the most solvent.

X	Y	Z
$\frac{100}{50}$	$\frac{100}{37.5}$	$\frac{100}{25}$
2 : 1	2.67 : 1	4 : 1

Illustration 19 : From the following information of **'U'** Ltd., calculate total assets to debt ratio.

Share capital ₹ 30,00,000; reserves and surplus ₹ 5,00,000; non-current liabilities ₹ 10,00,000; current liabilities ₹ 5,00,000

Ans. :

$$\text{Total Assets to Debt ratio} = \frac{\text{Total Assets}}{\text{Debt (Long-term liabilities)(Non-current liabilities)}}$$

Total assets are not given but all items of equity-liabilities sides are given. Thus the total of equity-liabilities is total of assets side.

Total of equity-liabilities		=	Total Assets
Equity share capital	₹	30,00,000	↓
Reserve and surplus	₹	5,00,000	
Non-current liabilities	₹	10,00,000	
Current liabilities	₹	5,00,000	
		50,00,000	**= 50,00,000**

$\frac{50,00,000}{10,00,000} = 5 : 1$

It can be interpreted that out of total assets of ₹ 5, the assets of ₹ 1 are purchased from debt (non-current liabilities). It means the remaining assets of ₹ 4 are purchased from shareholders' funds.

Illustration 20 : From the following information of **'D. V.'** Co. Ltd., calculate total assets to debt ratio.

	(₹)
Non-current assets (Gross)	28,00,000
Accumulated depreciation on fixed assets	3,00,000
Current assets	5,00,000
Equity share capital	18,00,000
Reserves and surplus	5,00,000
Total liabilities	7,00,000
Current liabilities	1,00,000

Ans. :

$$\text{Total Assets to debt ratio} = \frac{\text{Total Assets}}{\text{Debt (Long-term liabilities)}}$$

Total Assets =	(₹)
Non-current assets (Gross)	28,00,000
Less : Depreciation	3,00,000
	25,00,000
Add : Current assets	5,00,000
	30,00,000

Debt =	(₹)
Total liabilities	7,00,000
Less : Current liabilities	1,00,000
	6,00,000

$$\text{Total Assets-Debt ratio} = \frac{30,00,000}{6,00,000} = 5:1$$

(iii) Proprietary Ratio :

Meaning : Proprietary ratio shows relation between the total assets and the owners' funds (shareholders' funds).

There are two approaches used to determine the owners funds. Under both the approaches, owners' funds remain identical.

Approaches of Owners' Funds

Liabilities based approach		Assets based approach		
owners funds =		owners funds =		
Equity share capital	✓	Non-current assets	✓	
+ Preference share capital	✓	+ Current assets	✓	
+ Reserve and surplus	✓			✓
	✓	Less : Non-current liabilities	✓	
		+ Current liabilities	✓	✓
				✓

$$\text{Formula : Proprietary ratio} = \frac{\text{Owners' funds}}{\text{Total Assets}}$$

Objective : This ratio shows what proportion of total assets is acquired by owners funds. It is further assumed that remaining assets are acquired by borrowed funds.

Trend : This ratio provides information of economic solvency and margin of safety to the creditors of business. The higher the ratio higher the economic margin of safety and the lower the ratio the lower the economic margin of safety.

Illustration 21 : From the following information of **'M'** Ltd., calculate Proprietary ratio.

Balance Sheet as on 31-3-2017

Particulars	Amt. (₹)	Amt. (₹)
(I) Equity and Liabilities :		
(1) Shareholders' funds :		
Equity share capital	20,00,000	
Preference share capital	10,00,000	
Reserves and surplus	15,00,000	45,00,000
(2) Non-current liabilities		15,00,000
(3) Current liabilities		10,00,000
Total		**70,00,000**
(II) Assets :		
(1) Non-current assets		50,00,000
(2) Current assets		20,00,000
Total		**70,00,000**

Ans. :

$$\text{Proprietary ratio} = \frac{\text{Proprietor's fund (Owner's funds)}}{\text{Total Assets}}$$

To determine total assets either liabilities based approach or assets based approach can be used.

Liabilities Based Approach	Amt. (₹)	Assets Based Approach		Amt. (₹)
Equity share capital	20,00,000	Non-current assets	50,00,000	
Preference share capital	10,00,000	+ Current assets	20,00,000	70,00,000
Reserves and surplus	15,00,000	Less :		
		Non-current liabilities	15,00,000	
		Current liabilities	10,00,000	25,00,000
	45,00,000			**45,00,000**

$$\text{Proprietary ratio} = \frac{\text{Proprietor's fund}}{\text{Total Assets}}$$

$$= \frac{45,00,000}{70,00,000}$$

$$= 0.64 : 1$$

₹	1.00	Assets
− ₹	0.64	Assets from owners fund
₹	0.36	Assets from borrowed funds

Out of assets of ₹ 1, assets of ₹ 0.64 are acquired through owners funds and remaining assets of ₹ 0.36 are obatined through borrowed funds.

(iv) Interest Coverage Ratio :

Meaning : This ratio shows the relation between the earning before interest and tax and the interest on the long-term debt. This ratio shows earning capacity, thus if calculated in terms of times.

$$\text{Formula : Interest coverage ratio} = \frac{\text{Earning before interest and tax}}{\text{Interest on long-term debt}}$$

Earning before interest and tax =	Earning after tax	✓
	+ Tax	✓
	+ Interest	✓
		✓

Objectives : There are two ways to provide capital to the business. Capital provided by the owners and capital borrowed from the external parties. No interest is paid on the owners' capital but the interest is paid on the borrowed capital. Before lending funds to the business, lenders examines the interest payment capacity of the business enterprise. To examine status of interest payment capacity, this ratio is used.

Trend : This ratio indicates the interest payment capacity of the business. Thus higher the ratio higher the interest payment capacity of the business and vice versa.

Illustration 22 : From the following information of **'N. K.'** Company Ltd., calculate interest coverage ratio.

10 % debentures ₹ 10,00,000, 12 % bank loan ₹ 30,00,000, Earning before interest and tax ₹ 20,70,000

Ans. :

$$\text{Interest coverage ratio} = \frac{\text{Earning before interest and tax}}{\text{Interest on long-term liabilities}}$$

Interest on long-term liabilities =

10 % debentures ₹ 10,00,000	= 1,00,000
12 % bank loan ₹ 30,00,000	= 3,60,000
	4,60,000

$$\frac{20,70,000}{4,60,000} = 4.5 \text{ times}$$

Company has 4.5 times earnings to pay interest. This indicates good earning.

Illustration 23 : From the following information of **'R. J.'** Company, calculate interest coverage ratio.

Profit after tax ₹ 10,50,000; tax at 30 % ₹ 4,50,000; 10 % loan of ₹ 50,00,000

Ans. :

$$\text{Interest coverage ratio} = \frac{\text{Profit before interest and tax}}{\text{Interest on long-term liabilities}}$$

Profit before interest and tax =

	(₹)
Profit after tax	10,50,000
+ Tax	4,50,000
+ Interest (50,00,000 × 10 %)	5,00,000
	20,00,000

$$\frac{20,00,000}{5,00,000} = 4 \text{ times}$$

10. Efficiency (Activity) Ratios :

The profitability of the business increases, when all resources and equipments acquired by the business entity are used efficiently. In this context efficiency or activity ratios are developed. The following ratios are covered in the syllabus. These ratios are calculated in terms of times. Another ratio in this category are debtors' turnover and creditors' turnover. From these two ratios debtors' collection period and creditors' payment periods are determined. This period may be in terms of days, weeks or months.

(i) Stock turnover

(ii) Working capital turnover

(iii) Debtors turnover

(iv) Creditors turnover

(i) Stock turnover ratio :

Meaning : This ratio shows relation between the cost of goods sold and average stock. How many times stock is converted into production and sales, can be ascertained by this ratio.

Formula : Stock turnover $= \dfrac{\text{Cost of goods sold}}{\text{Average stock}}$

How to determine cost of goods sold, is already studied under the gross profit ratio determination. It is again represented as follows.

Cost of goods sold :

	Opening stock of raw material	✓
+	Purchase of raw material	✓
+	Purchase expenses	✓
		✓
−	Closing stock of raw material	✓
	Cost of goods consumed	✓
+	Wages	✓
+	Factory expenses	✓
	Cost of goods sold	✓

Cost of goods sold can be determined also as follows :

Gross profit = Sales − Cost of goods sold. This formula can be modified as follows :

Cost of goods sold = Sales − Gross profit

In case of gross loss

Cost of goods sold = Sales + Gross loss

Average stock $= \dfrac{\text{Opening stock + Closing stock}}{2}$

Objective : This ratio is the measurement of efficiency for the conversion of stock in to sales.

Trend : Generally, the increasing trend is acceptable. The increasing trend shows that very often the stock is converted into cost of goods sold and finally into sales. Generally, it is established that higher the ratio - higher the sales - higher the profit.

Theoretically higher ratio can be a result of deficit (shortage) of working capital and lower ratio can be the result of unnecessary investment in working capital. Thus it is desirable to maintain optimum level of stock.

Illustration 24 : From the following information of **'H. N.'** Limited, calculate stock turnover ratio.

Sales ₹ 25,00,000; gross profit ₹ 4,00,000; opening stock ₹ 4,00,000 and closing stock ₹ 3,00,000

Ans. :

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

Cost of goods sold =

	(₹)
Sales	25,00,000
− Gross profit	4,00,000
	21,00,000

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

$$= \frac{4,00,000 + 3,00,000}{2}$$

$$= ₹\ 3,50,000$$

$$\frac{21,00,000}{3,50,000} = 6 \text{ times}$$

Illustration 25 : From the following information of **'D. D.'** Company Ltd., calculate stock turnover ratio.

Particulars	(₹)	Particulars	(₹)
Opening stock	30,000	Closing stock	40,000
Purchase	4,80,000	Purchase expenses	20,000

Ans. :

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

Cost of goods sold =

	(₹)
Opening stock	30,000
+ Purchase	4,80,000
+ Purchase expenses	20,000
	5,30,000
− Closing stock	40,000
	4,90,000

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

$$= \frac{30,000 + 40,000}{2}$$

$$= ₹\ 35,000$$

$$\frac{4,90,000}{35,000} = 14 \text{ times}$$

(ii) Working Capital Turn-over Ratio :

Meaning : This ratio shows the relation between sales and working capital. If sales is not available, the relation between the cost of goods sold and the working capital is examined. From this ratio it is ascertained that how many times the working capital generates sales.

Formula : Working capital turnover $= \frac{\text{Sales (or cost of goods sold)}}{\text{Working capital}}$

When sales is not given in the question the ratio is to be calculated on the basis of cost of goods sold.

Objective : The purpose to invest in working capital is to yield revenue. This ratio is used to examine the efficiency of working capital. As compared to stock turnover ratio this ratio gives better results for efficiency measurement. In stock turnover, only stock is considered, but for this ratio working capital is considered.

Trend : Generally, the increasing trend is favourable. Theoretically, the increasing trend shows the efficient use of working capital, which is the cause of higher sales and consequently of higher profit.

Illustration 26 : From the following information of **'H. R.'** Limited, calculate working capital turnover.

Total sales ₹ 22,20,000; Sales return ₹ 20,000

Current assets ₹ 6,00,000; Current liabilities ₹ 2,00,000

Ans. :

Working capital turnover $= \frac{\text{Sales}}{\text{Working capital}}$

Sales :

	(₹)
Total Sales	22,20,000
Less : Sales return	20,000
	22,00,000

Working capital :

Current assets	6,00,000
Less : Current liabilities	2,00,000
	4,00,000

$= \frac{22,00,000}{4,00,000} = 5.5$ times

Illustration 27 : From the following information of **'M. N.'** Limited, calculate working capital turnover.

Working capital ₹ 3,00,000, Cost of goods sold ₹ 15,00,000, Gross profit rate 25 %.

Ans. :

Working capital turnover $= \frac{\text{Sales}}{\text{Working capital}}$

Sales : Cost of goods sold + Gross profit

Assume sales 100 = 75 % + 25 %

20,00,000 = 15,00,000 + 5,00,000

$= \frac{20,00,000}{3,00,000} = 6.67$ times

On the basis of cost of goods sold :

$= \frac{15,00,000}{3,00,000} = 5$ times

Illustration 28 : From the following information of **'M. M.'** Company Ltd., calculate working capital turnover.

Total assets ₹ 45,00,000, Non-current assets ₹ 30,00,000, Total liabilities ₹ 20,00,000

Non-current liabilities ₹ 10,00,000, Sales ₹ 25,00,000

Ans. :

$$\text{Working capital turnover} = \frac{\text{Sales}}{\text{Working capital}}$$

Working capital : Current assets − Current liabilities

Current assets = Total Assets − Non-current assets

= 45,00,000 − 30,00,000

= ₹ 15,00,000

Current liabilities = Total liabilities − Non-current liabilities

= 20,00,000 − 10,00,000

= ₹ 10,00,000

= ₹ 15,00,000 − 10,00,000

= ₹ 5,00,000

$$= \frac{25,00,000}{5,00,000} = 5 \text{ times}$$

(iii) Debtors Turnover Ratio :

Meaning : This ratio is known as receivable turnover ratio also. From this ratio it can be ascertained that how many times debtors and receivables emerge from credit sales. This ratio shows relation between credit sales and trade receivables.

Formula : $\text{Debtors turnover} = \frac{\text{Credit sales}}{\text{Average trade receivables}}$

Trade receivables means average of debtors and bills receivables of credit sales.

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

Note : During determination of trade receivables, bad debts reserve should not be deducted from the debtors. This ratio is for collection period not for receivable amount.

Objectives : From this ratio it can be ascertained that how many times debtors and bills receivables are emerged due to credit sales. This turnover shows that how quickly the collection is converted into cash or cash equivalent.

Trend : This is performance measurement ratio. Higher ratio shows higher collection efficiency and lower investment in debtors and bills receivable, while lower ratio shows lower collection efficiency and high investment in debtors and bills receivables.

The collection period is determined from this ratio. As stated above the high turnover of debtors gives quick collection and the low turnover of debtors gives slow collection. This time period can be in terms of days, weeks and months. Formulas pertaining to this is as follows :

$$\text{Collection period in months} = \frac{12}{\text{Debtors turnover}}$$

$$\text{Collection period in weeks} = \frac{52}{\text{Debtors turnover}}$$

$$\text{Collection period in days} = \frac{365}{\text{Debtors turnover}}$$

Note : To compute this ratio clear instruction should be given to the students. e.g. 12 months, 52 weeks or 365 days.

Illustration 29 : From the following information of **'R. R.'** Limited determine debtors turnover and collection period in months, weeks and days.

Particulars	(₹)	Particulars	(₹)
Total Sales	40,00,000	Cash Sales	3,50,000
Opening debtors and bills receivables	4,00,000	Closing debtors and bills receivables	3,30,000

Ans. : This kind of problems are solved in two stages, which are as follows :

(A) Debtors turnover : $\dfrac{\text{Credit sales}}{\text{Average trade receivables}}$

Credit sales :

	(₹)
Total sales	40,00,000
− Cash sales	3,50,000
	36,50,000

$$\textbf{Average trade receivables} = \frac{\text{Opening debtors and bills receivables} + \text{Closing debtors and bills receivables}}{2}$$

$$= \frac{4,00,000 + 3,30,000}{2}$$

$$= ₹\ 3,65,000$$

$$\frac{36,50,000}{3,65,000} = 10 \text{ times}$$

(B) Collection period :

In months	In weeks	In days
(A)	(B)	(C)
$\dfrac{12}{\text{Debtors turnover}}$	$\dfrac{52}{\text{Debtors turnover}}$	$\dfrac{365}{\text{Debtors turnover}}$
$\frac{12}{10}$	$\frac{52}{10}$	$\frac{365}{10}$
1.2 months	5.2 weeks	36.5 days (37 days)

Note : The above stated figures indicate that if collection period is calculated in terms of months, the collection will be received within 1.2 months. If it is calculated in terms of weeks, the collection will be received within 5.2 weeks and in terms of days the collection will be received within 36.5 days.

Illustration 30 : From the following information of **'R. H.'** Company Limited, calculate debtors turnover and collection period in days.

Particulars	(₹)	Particulars	(₹)
Cost of goods sold	48,00,000	Gross profit	12,00,000
Cash Sales	12,00,000	Closing trade receivables	1,70,000
Opening trade receivables	2,30,000		

Ans. :

(A) Debtors turnover : $\dfrac{\text{Credit sales}}{\text{Average trade receivables}}$

Credit sales : Total sales − Cash sales

Total sales = Cost of good sold + Gross profit

= 48,00,000 + 12,00,000

= ₹ 60,00,000

= ₹ 60,00,000 − ₹ 12,00,000 = ₹ 48,00,000

Average trade receivables $= \dfrac{\text{Opening trade receivables} + \text{Closing trade receivables}}{2}$

$= \dfrac{2,30,000 + 1,70,000}{2}$

= ₹ 2,00,000

$\dfrac{48,00,000}{2,00,000}$ = 24 times

(B) Collection period $= \dfrac{365 \text{ days}}{\text{Debtors turnover}}$

$= \dfrac{365}{24}$

= 15.21 days = 15 days

(iv) Creditors' Turnover Ratio :

Meaning : This ratio is known as payable turnover ratio also. From this ratio it can be ascertained that how many times creditors and bills payables are emerged by credit purchase. This ratio shows the relation between the credit purchase and trade payables.

Formula : Creditors turnover $= \dfrac{\text{Credit purchase}}{\text{Average trade payables}}$

Average trade payables means average of creditors and bills payables of credit purchase.

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

Objectives : From this ratio it can be ascertained that how many times creditors and bills payables are emerged due to credit purchase. This ratio indicates, how quickly the payment is made.

Trend : This is a performance measurement ratio. Lower ratio shows higher payment efficiency. Owner has to spare his own capital in low quantum due to creditors and bills payables. Higher ratio shows lower payment efficiency.

The payment period is determined from this ratio. This time period can be in months, weeks and days. Formula in this context similar to collection period, are as follows :

$$\text{The payment period in months} = \frac{12}{\text{Creditors turnover}}$$

$$\text{The payment period in weeks} = \frac{52}{\text{Creditors turnover}}$$

$$\text{The payment period in days} = \frac{365}{\text{Creditors turnover}}$$

Illustration 31 : From the following information of **'A. B.'** Company Ltd., calculate creditors turnover and payment period in months, weeks and days.

Particulars	(₹)	Particulars	(₹)
Total purchase	30,00,000	Cash purchase	4,00,000
Opening trade payables	3,60,000	Closing trade payables	4,80,000

Ans. :

(A) Creditors turnover : $\frac{\text{Credit purchase}}{\text{Average trade payables}}$

Credit purchase :

	(₹)
Total Purchase	30,00,000
− Cash Purchase	4,00,000
	26,00,000

$$\textbf{Average trade payables} = \frac{\text{Opening trade payables} + \text{Closing trade payables}}{2}$$

$$= \frac{3,60,000 + 4,80,000}{2}$$

$$= ₹\ 4,20,000$$

$$\frac{26,00,000}{4,20,000} = 6.19 \text{ times}$$

(B) Payment period :

In months	In weeks	In days
(A)	(B)	(C)
$\frac{12}{\text{Creditors turnover}}$	$\frac{52}{\text{Creditors turnover}}$	$\frac{365}{\text{Creditors turnover}}$
$\frac{12}{6.19}$	$\frac{52}{6.19}$	$\frac{365}{6.19}$
1.94 months	8.40 weeks	58.97 days (59 days)

Illustration 32 : From the following information of **'A. A.'** Company Ltd., calculate creditors turnover and payment period in days.

Particulars	(₹)	Particulars	(₹)
Total purchase	35,00,000	Cash purchase	3,00,000
Purchase return	2,00,000	Opening trade payables	5,40,000
Closing trade payables	4,60,000		

Ans. :

(A) Creditors turnover : $\frac{\text{Credit purchase}}{\text{Average trade payables}}$

Credit purchase :

	(₹)
Total purchase	35,00,000
− Purchase return	2,00,000
	33,00,000
− Cash purchase	3,00,000
	30,00,000

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

$$= \frac{5,40,000 + 4,60,000}{2}$$

$$= ₹\ 5,00,000$$

$$\frac{30,00,000}{5,00,000} = 6 \text{ times}$$

(B) Payment period in days $= \frac{365}{\text{Creditors turnover}}$

$$= \frac{365}{6} = 60.83$$

$$= 61 \text{ days}$$

Exercise

1. Select appropriate option for each question :

(1) Which of the following is correct for accounting ratios ?

(a) Comparison with ratios developed by the firm

(b) Comparison with ratios of industry

(c) Comparison with ratios of competitors

(d) All of the above

(2) In which terms ratios are presented ?

(a) Proportion (b) Percentage

(c) Time (d) All of the above

(3) For which of the following items the ratio is computed in days ?

(a) For total purchase (b) For credit sales

(c) For credit purchase (d) Both (b) and (c)

(4) Which of the following ratios are included in traditional classification ?

(a) Composite ratios (b) Liquidity ratios

(c) Profitability ratios (d) Solvency ratios

(5) Which of the following ratios is revenue based profitability ratio ?

(a) Gross profit ratio (b) Net profit ratio

(c) Operating ratio (d) Both (a) and (b)

(6) A company has the purchase of ₹ 90,000, the purchase expenses of ₹ 15,000, the changes in stock (₹ 15,000) and sales of ₹ 1,50,000. Determine the gross profit ratio.

(a) 40 % (b) 13.33 %

(c) 20 % (d) None of the above

(7) Which of the following is not included in operating expense ?

(a) Loss on sale of asset (b) Loss due to fire

(c) Interest paid (d) All of the above

(8) The cost of goods sold of a company is ₹ 10,00,000. Operating expenses are ₹ 2,00,000. Non-operating expenses are ₹ 3,00,000. Financial expenses are ₹ 1,00,000. If total sales is ₹ 20,00,000, determine operating profit ratio.

(a) 20 % (b) 40 %

(c) 30 % (d) 28 %

(9) Liquidity ratio is ..... .

(a) measurement of solvency (b) measurement of short-term profitability

(c) measurement of profitability (d) measurement of liquidity

(10) Which of the following is not included to compute current ratio ?

(a) Debtors (b) Stock

(c) Bills receivables (d) Furniture

(11) Working capital means ..... .

(a) difference between current assets and non-current assets

(b) difference between current liabilities and non-current assets

(c) difference between current assets and non-current liabilities

(d) difference between current assets and current liabilities

(12) To arrive at liquid assets which of the following is deducted from current assets ?

(a) Stock (b) Cash and cash equivalent

(c) Debtors (d) Bills receivables

2. Answer the following questions in one sentence :

(1) What is ratio ?

(2) When ratio is useful ?

(3) In which forms ratios can be presented ?

(4) What is the cost of goods sold ?

(5) The gross profit ratio and the net profit ratios are revenue based ratios or expense based ratios ?

(6) When the changes in stock is positive, whether it will be added to cost of goods sold or deducted ?

(7) Give one illustration of financial expense.

(8) Are financial expenses included to determine operating ratio ?

(9) What is indicated by liquidity ratios ?

(10) Will the current ratio increase or decrease when the current assets increase and the current liabilities remain unchanged ?

(11) What is the shareholders' funds ?

(12) What is indicated by interest coverage ratio ?

(13) Which is better out of high interest coverage ratio and low interest coverage ratio ?

(14) By which ratios efficiency is measured ?

(15) In order to arrive at trade receivables is bad debts reserve deducted from debtors ?

3. Answer the following questions in brief :

(1) Explain three objectives of ratio analysis.

(2) Describe three limitations of ratio analysis.

(3) When are the computed ratios useful ?

(4) Explain the traditional classification of ratios.

(5) Explain the functional classification of ratios.

(6) Explain any one ratio of profitability.

(7) Explain any one ratio of liquidity.

(8) Explain any one ratio of solvency.

(9) Explain any one ratio of efficiency.

(10) What are included in operating expenses ?

(11) Explain non-operating incomes.

(12) Do we consider current investment for current ratio ?

(13) Explain the approaches of proprietary funds.

4. Determine gross profit ratio :

(1) Sales ₹ 10,00,000, Gross profit ₹ 3,00,000

(2) Sales ₹ 15,00,000, Cost of goods sold ₹ 12,00,000

(3) Sales ₹ 20,00,000 Sales return ₹ 2,00,000
Opening stock ₹ 2,50,000, Closing stock ₹ 3,50,000
Purchase ₹ 12,00,000 Purchase expenses ₹ 50,000

5. From the following information calculate operating ratio :

Particulars	(₹)	**Particulars**	(₹)
Non-operating other expenses	35,000	Income of Interest-dividend	45,000
Depreciation	48,000	Sales expenses	52,000
Administrative expenses	75,000	Cost of goods sold	3,25,000
Sales	6,00,000	Financial expenses	85,000
Tax rate	30 %		

6. From the following information calculate (i) operating ratio and (ii) operating profit ratio :

Particulars	(₹)	**Particulars**	(₹)
Sales	39,00,000	Wages	2,00,000
Cost of goods consumed	25,00,000	Administrative expenses	1,75,000
Sales expenses	75,000	Interest on loan	60,000
Loss due to accident	40,000	Dividend received on investments	1,00,000
Factory expenses including depreciation	50,000	Tax rate	30 %

7. Calculate net profit ratio from information of question no. 5 and 6.

8. From the following information calculate current ratio and liquid ratio :

Particulars	(₹)	**Particulars**	(₹)
Stock	3,00,000	Bills receivables	75,000
Debtors	2,50,000	Bad debts reserve	20,000
Cash and cash equivalent	1,20,000	Expenses paid in advance	60,000
Furniture	1,60,000	Creditors	2,00,000
Bills payable	60,000	Outstanding expenses	50,000
Short-term loan	40,000		

9. From the following information of **'H'** Limited, calculate debt-equity ratio :

Particulars	(₹)	**Particulars**	(₹)
Long-term liabilities	8,00,000	Equity share capital	8,00,000
Long-term provisions	4,00,000	Preference share capital	2,00,000
Debit balance of profit-loss A/c	50,000	Creditors	1,25,000
Bills payables	25,000	Outstanding expenses	10,000

10. From the following information of **'M'** Limited, calculate debt-equity ratio :

Particulars	(₹)	**Particulars**	(₹)
Current liabilities	4,50,000	Long-term liabilities	8,00,000
Long-term provisions	6,00,000	Total assets	30,00,000

11. From the following information of **'N'** Company Limited, calculate debt-equity ratio :

Particulars	(₹)	Particulars	(₹)
Creditors	1,60,000	Non-current assets	12,00,000
Bills payables	1,40,000	Current assets	10,00,000
Outstanding expenses	1,00,000	Total liabilities	10,00,000

12. From the following information of **'R'** Company Limited, calculate total assets-debt ratio.

Particulars	(₹)	Particulars	(₹)
Preference Share capital	6,00,000	Non-current liabilities	4,00,000
Equity Share capital	10,00,000	Current liabilities	4,00,000
Reserves and surplus	2,00,000		

13. From the following information of **'T'** Company Ltd., calculate proprietary ratio :

Particulars	(₹)	Particulars	(₹)
Equity share capital	12,00,000	Current liabilities	4,00,000
Preference share capital	8,00,000	Non-current assets	12,00,000
Reserves and surplus	4,00,000	Current assets	24,00,000
Non-current liabilities	8,00,000		

14. From the following information of **'K'** Company Ltd., calculate interest coverage ratio :

Particulars	(₹)	Particulars	(₹)
Profit after tax	7,50,000	Taxes paid	2,50,000
10 % debentures	20,00,000	12 % loan	10,00,000

15. Calculate stock turnover ratio, from the following information of **'L'** Company Ltd. :

Particulars	(₹)	Particulars	(₹)
Sales	30,00,000	Opening stock	3,50,000
Closing stock	2,50,000	Purchases	12,00,000
Gross profit rate	30 %		

16. Calculate stock turnover ratio from the following information of **'Y'** Company Ltd. :

Particulars	(₹)	Particulars	(₹)
Opening stock	2,00,000	Closing stock	1,50,000
Sales	40,00,000	Purchases	22,00,000
Purchase expenses	1,00,000	Wages	2,50,000

17. Calculate working capital turnover ratio (based on sales and cost of goods sold), from the following information of **'Z'** Company Ltd. :

Particulars	(₹)	Particulars	(₹)
Cost of goods sold	32,00,000	Gross profit	8,00,000
Non-current assets	10,00,000	Current assets	5,00,000
Non-current liabilities	6,00,000	Current liabilities	3,00,000

18. From the following information of **'B'** Company Ltd., calculate debtors turnover and collection period in days. What will be answer if collection period is calculated in terms of weeks and months ? (Assume 360 days of the year)

Particulars	(₹)	**Particulars**	(₹)
Total Sales	4,50,000	Credit sales	3,65,000
Opening debtors	70,000	Closing debtors	50,000
Opening bills receivables	20,000	Closing bills receivables	6000
Opening creditors	45,000	Closing creditors	48,000

19. From the following information of **'C'** Company Ltd., calculate creditors turnover and payment period in days. What will be answer if payment period is calculated in terms of weeks and months ? (Assume 360 days of the year)

Particulars	(₹)	**Particulars**	(₹)
Opening balances :		Credit sales	6,00,000
Creditors	45,000	Cash sales	4,00,000
Bills payables	15,000	Total sales	10,00,000
Bills receivables	30,000	Total purchase	6,00,000
Debtors	30,000	Cash purchase	2,40,000
Closing balances :			
Creditors	40,000		
Bills payables	20,000		
Bills receivables	40,000		
Debtors	20,000		

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