RATIO ANALYSIS

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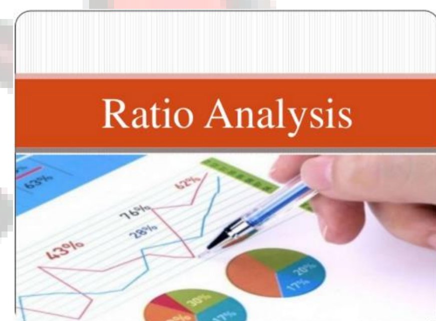
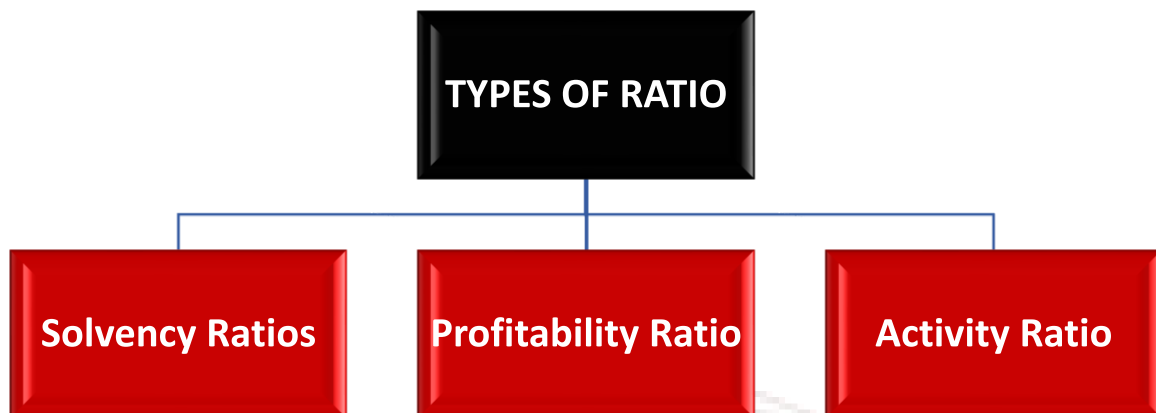
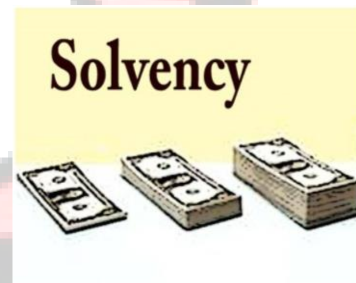


It is a financial analysis technique that **involves the calculation and interpretation of various accounting ratios** to assess a company's financial performance, stability, and overall health.

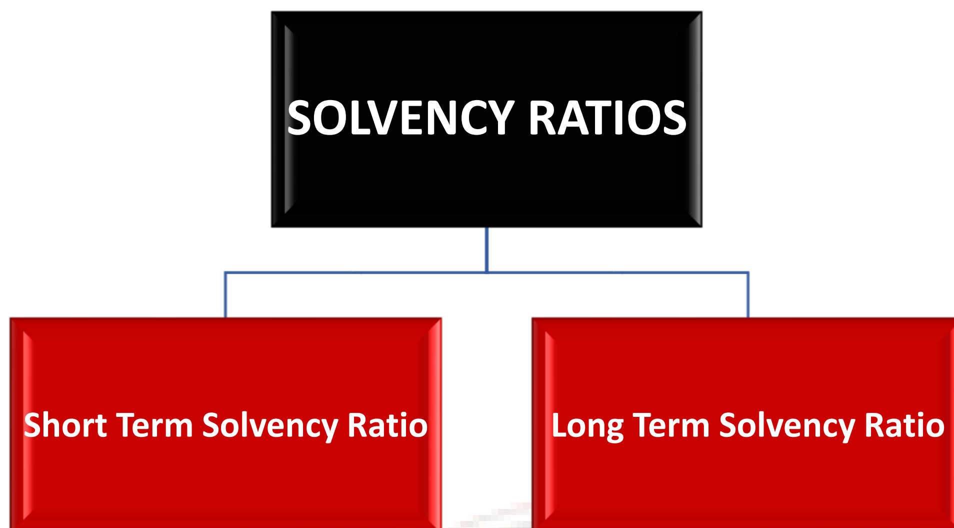


TYPES OF RATIOS

SOLVENCY RATIOS



- It helps in determining whether a company has **sufficient funds to manage the debt obligations that are due**.
- These ratios provide insights into a company's **capacity to repay its debt and continue its operations** without financial distress.

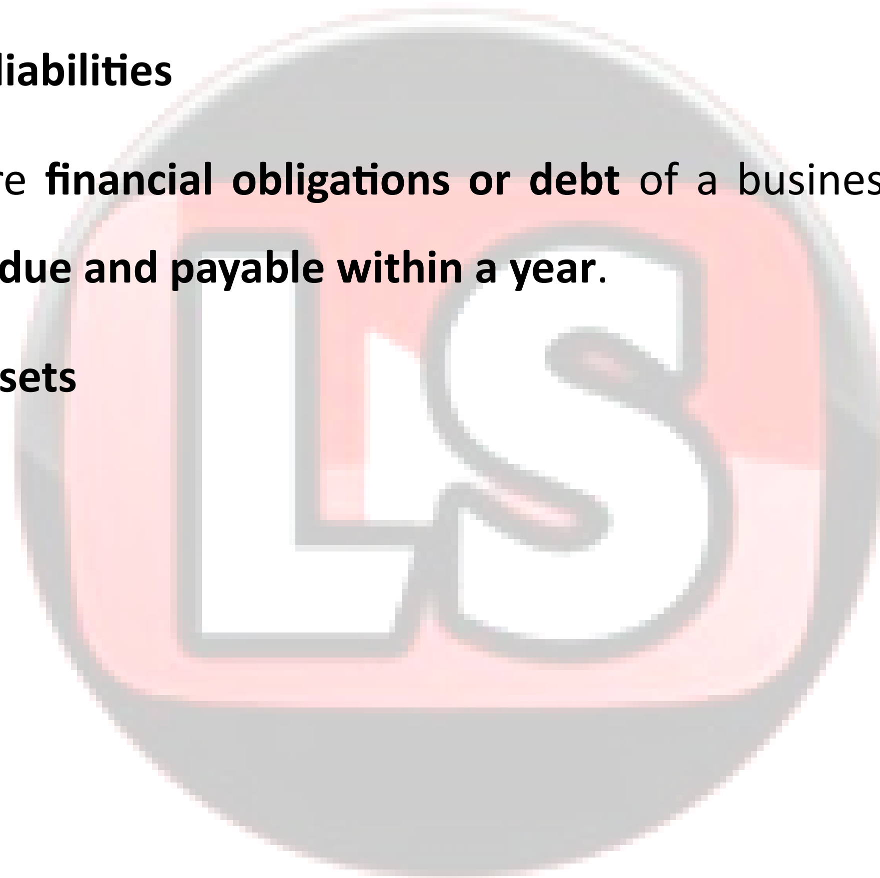


Short-Term Solvency Ratio/ Liquidity Ratio

- This ratio helps in measuring the **sufficiency of an enterprise to pay off its short-term liabilities**.
- A high liquidity ratio ensures the **company is in a good position** to pay its creditors.

Short-Term Solvency Ratio

Current ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$
Quick ratio	$\frac{\text{Quick Assets}}{\text{Current Liabilities}}$



Current assets

These are assets that are expected to be **converted into cash within a period of one year.**

Current liabilities

These are **financial obligations or debt** of a business entity that **are due and payable within a year**.

Quick assets

XYZ Company, a mid-sized manufacturing firm, is analysing its financial health to ensure it can meet its short-term financial obligations. The company has reported the following financial figures for the most recent fiscal y period:
Cash ₹20,000, Accounts Receivable ₹30,000, Inventory ₹25,000, Prepaid Expenses ₹5,000, Short-term Investments ₹10,000.
Accounts Payable ₹12,000, Short-term Debt ₹10,000, Accrued Expenses ₹8,000 .
The management wants to assess the company's liquidity by calculating the **current ratio** and **quick ratio**.

a) 2:1,1:1
b) 3:1,2:1
c) 2:2,2:3
d) 1:4,4:2

XYZ Company, a mid-sized manufacturing firm, is analyzing its financial health to ensure it can meet its short-term obligations. The company has provided the following information for the fiscal period:

- **Current Assets:** 250,000
- **Inventories:** 50,000
- **Current Ratio:** 2:1
- **Prepaid expense : NIL**

The objective is to find out the current liabilities and quick ratio based on the given current ratio.

a) 125000,1.44

b) 250000 ,1.55

c) 150000,1.77

d) 250000,1.88

LONG TERM SOLVENCY RATIO/LEVERAGE RATIO

These are financial ratios that assess a **company's long-term financial stability** and its ability to meet its long-term obligations.

Debt To Equity Ratio

- This is a financial ratio indicating the relative **proportion of shareholders' equity and debt** used to finance a company's assets.
- It provides insights into the **company's capital structure** and the degree to which it relies on **debt financing compared to equity financing.**
- A **Low Debt to Equity ratio** is better for a company.

$$\text{Debt to Equity ratio} = \frac{\text{Long Term Debt}}{\text{Equity}}$$

XYZ Company is evaluating its financial leverage and risk profile by calculating its Debt-to-Equity Ratio. This ratio will help the company understand its financial structure and the balance between its debt and equity financing.

- Equity Share Capital: 500,000
- Preference Share Capital: 200,000
- Reserves and Surplus: 300,000
- Debentures (Long-Term Debt): 500,000
- Long-Term Loan: 100,000

Objective:

Calculate the Debt-to-Equity Ratio to assess the company's financial leverage.

a) 0.5: 1

b) 0.6: 1

c) 1: 0.6

d) 1: 0.5

Debt to Equity ratio = $\frac{\text{Long Term Debt}}{\text{Equity}}$

Q:1 ABC Company is evaluating its financial leverage by calculating the Debt-to-Equity Ratio. company has Total Debts 450000, Total assets 800000, Current liabilities 100000.Calculate Debt to Equity ratio.

a) 2:1

b) 1:1

c) 3:1

d) 2:1

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Debt to Equity ratio = $\frac{\text{Long Term Debt}}{\text{Equity}}$

Total Assets To Debt Ratio

- It is a financial ratio that measures the **relationship between a company's total assets and its total debt**.
- It provides insights into the proportion of a **company's assets that are financed by debt**.
- **High Total assets to debt ratio** is better for company.

Total assets to Debt ratio = $\frac{\text{Total Assets}}{\text{Long term Debt}}$

XYZ Company Balance Sheet	
Assets	**Amount**
Current Assets	
Cash	50,000
Bank Balance	5,0000
Debtors	10,000
Inventories (Stock)	30,000
Prepaid Expenses	5,0000
Non-current Assets	
Property, Plant, and Equipment	400,000
Other Non-current Assets	200,000
Liabilities	**Amount**
Current Liabilities	

Creditors (Accounts Payable)	25,000
Outstanding Expenses	10,000
Bills Payable	15,000
Long-term Liabilities	
Debentures	400,000
Long-term Loan	100,000
Equity	**Amount**
Equity Share Capital	500,000
Preference Share Capital	200,000
Reserves and Surplus	300,000

Q: 1 Calculate the Total Assets to Debt Ratio for XYZ Company.

a) 0.58:1

b) 1.08:1

c) 1.58:1

d) 2.08:1

SOLUTION

Total assets to Debt ratio = $\frac{\text{Total Assets}}{\text{Long term Debt}}$

Proprietors Ratio

- This is a type of solvency ratio that is useful for determining the **amount or contribution of shareholders** or proprietors towards the **total assets of the business**.
- A company having **high Proprietors Ratio is good** for investment.

Proprietors Ratio = $\frac{\text{Equity}}{\text{Total Assets}}$

ABC Company is analysing its financial stability by calculating the Proprietary Ratio, also known as the Equity Ratio. This ratio measures the proportion of a company's assets that are financed by shareholders' equity, providing insight into the financial health and stability of the company.

BALANCE SHEET	₹
Non-Current Assets	
- Property, Plant, and Equipment	500,000
- Intangible Assets	150,000
- Long-term Investments	100,000
Current Assets	
- Cash	40,000
- Accounts Receivable	80,000
- Inventory	70,000
- Prepaid Expenses	20,000
- Short-term Investments	40,000
Equity and Liabilities	
- Equity Share Capital	300,000
- Preference Share Capital	200,000
- Reserves	100,000
Total Equity	
- **Total Liabilities**	400,000

a) 0.6 :1

b) 0.5 :1

c) 0.3 :1

d) 2.5 :1

Interest Coverage Ratio

- The interest coverage ratio is used to measure **how well a firm can pay the interest due on outstanding debt**.
- A company having a **high Interest Coverage Ratio is good** for investment.

$$\text{Interest Coverage Ratio} = \frac{\text{Earnings before interest and taxes}}{\text{Interest Expense}}$$

From the following details, calculate interest coverage ratio: Net Profit after tax Rs. 250000; 10% Long-term debt 15,00,000; and Tax amount is 50000.

a) 1:1

b) 2:1

c) 3:1

d) 4:1

PROFITABILITY RATIOS

- This accounting ratio helps in **determining the financial performance of a business** at the end of an accounting period.
- Profitability ratios show how well a **company is able to make profits from its operations.**

Gross Profit Ratio

- The gross profit ratio highlights the connection **between gross profit and net sales.**
- Calculating this ratio aims to assess the **effectiveness of production and/or procurement processes.**

Gross profit ratio = $\frac{\text{Gross profit}}{\text{Net sales}} X100$

Gross Profit

Gross Profit is the **excess of net sales over cost of goods sold**.

Cost Of Goods Sold (COGS)

Cost of goods sold is the total of **all cost used to create a product or service**, which has been sold.

COGS = Opening Stock + Net Purchases + Direct Expenses - Closing Stock

Q:1 From the following information calculate gross profit ratio. cash sales 500000, credit sales 25% of cash sales, sales return 10000 and cost of goods sold is 550000.

a) 10.57 %

b) 11.57 %

c) 12.57 %

d) 13.57 %

Operating Profit Ratio

- The operating profit ratio evaluates the **correlation between operating profit and net sales.**
- The primary goal of calculating this ratio is to gauge the **managerial effectiveness in core business operations.**

Operating Profit Ratio = $\frac{\text{Operating Profit}}{\text{Net sales}} X100$

Operating Profit

Operating profit is the **income earned** from the **core operations of a business.**

Operating profit = Gross Profit-Operating Expenses

Operating profit =Net Profit + Non-Operating Expenses - Non-Operating Income

From the following information calculate operating profit ratio. Revenue from operation 800000, cost of revenue from operations 600000, operating expenses is 75000.

a) 22.25 %

b) 24.23 %

c) 15.63 %.

d) 20.12 %

Net Profit Ratio

- The net profit ratio evaluates the **correlation between net profit and net sales.**
- The primary goal of calculating this ratio is to **determine the overall efficiency of the management.**

Net Profit Ratio = $\frac{\text{Net Profits}}{\text{Net sales}} X100$

Net Profit

Net profit is the measurement of a company's **profit once operating costs, taxes, interest, and depreciation** have all been **subtracted from its total revenues.**

Net Profit =Operating Profit - Non-Operating Expenses +Non-Operating Income

Net Profit =Gross Profit - Indirect Expense +Non-Operating Income

From the following information calculate net profit ratio. Net sales 1000000 Gross profit 350000, indirect expenses are 50000 and Non-Operating Income are 25000.

a) 15.2 %

b) 25.6 %

c) 32.5 %.

d) 35.2 %

Return On Investment Ratio

- It establishes a relationship between **net profits before interest and tax and capital employed.**
- The objective of computing this ratio is to find **out how efficiently the long-term funds are being used.**

$$\text{ROI} = \frac{\text{EBIT}}{\text{Capital employed}} X100$$

Capital Employed

Capital employed refers to **long term funds** supplied by the long-term creditors and shareholders.

Capital Employed=Shareholder fund+ Long term debt

Capital Employed=Total assets- current liabilities

EBIT

EBIT stands for **Earnings Before Interest and Taxes**

A company has Total Assets 800000, current liabilities 150000 and Earnings before interest and tax is 200000.calculate return on investment ratio.

a) 25.76 %

b) 30.76 %

c) 35.76 %

d) 40.76 %

ACTIVITY OR TURNOVER RATIOS

These are financial ratios that measure how **effectively a company utilizes its assets, resources, and capital** to generate sales or revenue.

Inventory Turnover Ratio

- The inventory turnover ratio establishes a **connection between the cost of goods sold and the average inventory.**
- The purpose of calculating this ratio is to determine **how efficiently inventory is put to use.**
- This ratio reflects the pace at which inventory is transformed into sales, and a **higher ratio signifies effective performance**.

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of goods sold}}{\text{Average Inventory}}$$

Cost Of Goods Sold

It is the total of all costs used to create a product or service, which has been sold.

Cost of goods sold = Opening Stock + Purchases (Net) + Direct Expenses- Closing Stock

Cost of Revenue an operation = Net sales (Revenue from operation) - Gross Profit

Average Inventory

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

Important note

- If average inventory can't be calculated due to **absence of opening stock**, the figure of closing stock may be applied.
- In case the enterprise values **its inventory at selling price**, then instead of cost of goods sold, **'Net sales' figure may be applied.**

Q:1 From the following information calculate inventory turnover ratio. Opening stock 60000, Net purchases 500000, carriage inward 50000, closing stock 30000.

- Opening stock: 60,000
- Net purchases: 500,000
- Carriage inward: 50,000
- Closing stock: 30,000

Solution

To calculate the inventory turnover ratio, we need to determine the cost of goods sold and the average inventory.

Cost of goods sold = Opening stock + Net purchases + Direct expense - Closing stock

Cost of goods sold = 60,000 + 500,000 + 50,000 - 30,000 = 580,000

Average inventory = (Opening stock + Closing stock) / 2

Average inventory = (60,000 + 30,000) / 2=45,000

Inventory Turnover Ratio = $\frac{\text{Cost of goods sold}}{\text{Average Inventory}}, = \frac{580000}{45000} = 12.88\ times$

Explanation

In this case, the ratio suggests that, on average, the company sold and replaced its inventory approximately 12.89 times during the period. A higher inventory turnover ratio generally indicates efficient inventory management and faster inventory turnover, which is generally seen as favorable.

Debtors Turnover Ratio/Trade Receivable ratio

- This ratio defines the correlation between **net credit sales and the average value of trade receivables.**
- The purpose of calculating this ratio is to assess the **effectiveness in managing and realizing trade receivables.**

$$\text{Debtors Turnover Ratio} = \frac{\text{Net Credit Sales}}{\text{Average Trade receivable}}$$

Credit sales

Credit sales is a transfer of **ownership of goods and services to a customer** in which the amount owed will be **paid at a later date**.

Net credit sales= Total credit sales- sales returns.

Average Trade Receivable

Debtor +Bills receivable

(Opening debtors + opening Bills receivable + Closing debtors + Closing Bills receivable) / 2

Debt Collection Period

Its period Indicates an average period for which the **credit sales remain outstanding** and measures the quality of Trade Receivable.

$$\text{Debt Collection Period} = \frac{\text{Average Trade receivable}}{\text{Average Credit sales per day}}$$

$$\text{Debt Collection Period} = \frac{\text{12months or 365 days}}{\text{Debtors Turnover Ratio}}$$

Note

$$\text{Average Credit sales per day} = \frac{\text{Net Credit sales for the year}}{\text{working days in the year}}$$

Q:1 Calculate debtor turnover ratio and debt collection period from the following information. Average trade receivable 80000, cost of goods sold 500000, gross profit 20 % on cost, cash sales is 20% of total sales.

- Average trade receivable: 80,000
- Cost of goods sold:500,000.
- Gross profit: 20% on cost
- Cash sales: 20% of total sales

Solution

To calculate the Debtor turnover ratio and average collection period, we need to determine the credit sales and the average trade receivable.

Debtors Turnover Ratio

Net sales=cost of goods sold + gross profit

Net sales=500000 + 100000 = 600000

Gross Profit = 500000*20%=100000

Credit sales = Total sales - Cash sales

Credit sales = 600,000 - (600,000 *20%)

Credit sales = 600000-120000=480000

Net Credit Sales = Credit sales – sales return

Net Credit Sales =480000– 0=480000

Debtors Turnover Ratio = $\frac{\text{Net Credit Sales}}{\text{Average Trade receivable}}$.= $\frac{480000}{80000} =$ $6\ times$

Debt collection period

Debt Collection Period = $\frac{\text{12months or 365 days}}{\text{Debtors Turnover Ratio}}$,= $\frac{365}{6} = 60\ days$

Explanation

Therefore, the debtor turnover ratio is 6 times, indicating that the company collects its average trade receivables 6 times in a given period. The debt collection period is approximately 60 days, which represents the average time it takes the company to collect its outstanding receivables.

Creditor Turnover Ratio

- This ratio establishes a connection between **net credit purchases and the average trade payables.**
- Calculating this ratio aims to assess the **efficiency in settling trade payables.**
- A higher ratio suggests a shorter payment period, indicating prompt payments.

Creditors Turnover Ratio $=\frac{\text{Net Credit Purchases}}{\text{Average Trade Payable}}$

Credit Purchase

Credit purchase is to purchase something **you receive today that you will pay for later.**

Net credit purchases= Total credit purchases - purchase returns.

Average Trade payable

Average trade payable = Creditor + Bills payable Average trade payable = (Opening Creditor + opening bills payable +closing creditor + closing bills payable)/2

Average Payment Period

Average Payment Period indicates **the average period for which the credit purchases remain outstanding** or average credit period actually availed.

$$\text{Average payment period} = \frac{\text{Average Trade payable}}{\text{Average net credit purchases per day}}$$

$$\text{Average payment period} = \frac{\text{12months or 365days}}{\text{Creditor Turnover Ratio}}$$

Note

Average net credit purchases per day

$$= \frac{\text{Credit purchases for the year}}{\text{Working days during the year}}$$

Q:1 Total purchase for the year 250000 in which 60 % purchase is credit purchase, closing creditor 15000 and days are 360 calculate creditor turnover ratio and average payment period.

- Total purchases for the year: 250,000
- Credit purchases: 60% of total purchases

- Closing creditor: 15,000
- Number of days: 360

Solution

To calculate the creditor turnover ratio and average payment period, we need to determine the credit purchases and the average trade payable.

Creditors Turnover Ratio

Credit purchases = Total purchases * Credit purchase percentage

Credit purchases = 250,000 * 0.60=150000

Net Credit purchase = Credit purchase – Purchase return

Net Credit purchase =150000– 0=150000

Creditors Turnover Ratio $= \frac{\text{Net Credit Purchases}}{\text{Average Trade Payable}}, = \frac{150000}{15000} = 10\ times$

Average payment period

Average payment period $= \frac{360 \text{ days}}{\text{Creditor Turnover Ratio}}, = \frac{360}{10} = 36\ days$

Explanation

Therefore, the creditor turnover ratio is 10, indicating that the company pays its creditors 10 times in a given period. The average payment period is 36 days, representing the average time it takes the company to pay its outstanding creditors.

Working Capital Turnover Ratio

- The working capital turnover ratio measures the **relationship between working capital and sales.**
- This ratio indicates the firm's ability to **generate sales per rupee of working capital**. It reflects the efficiency in utilisation of working capital.

Working capital turnover ratio $= \frac{\text{Net sales}}{\text{Working Capital}}$

Working Capital

The capital required by a business to **meet its day-to-day expenses is known as working capital**.

Q:1 A company has current assets 500000, current liabilities 300000 and net sales are 800000.calculated working capital turnover ratio.

- Current assets: 500,000
- Current liabilities: 300,000
- Net sales: 800,000

Solution

To calculate the working capital turnover ratio, we need to determine the working capital and the net sales.

Working capital = Current assets - Current liabilities

Working capital = 500,000 - 300,000

Working capital = 200,000

Working capital turnover ratio $= \frac{\text{Net sales}}{\text{Working Capital}}, = \frac{800000}{200000} = 4 \; times$

Explanation

Therefore, the working capital turnover ratio is 4. This indicates that the company generated 4 rupee of net sales for every 1 rupee of working capital during the given period.

Sr No.	Questions	Answer
1	Accounting ratio is calculated on the basis of__________.	Accounting information
2	_________is a technique of analysing the financial statements with the help of accounting ratio.	Ratio analysis
3	Ratio analysis helps in understanding the financial performance and position of an enterprise. (True/False)	True
4	Ratio analysis takes into consideration only qualitative factors and all the related	False

	quantitative factors are ignored. (True/False)	
5	_________shows the ability of the enterprise to meet its short-term financial obligations.	Liquidity ratio
6	Short-term solvency ratio known as____________	Short-term solvency ratio
7	Long-term solvency ratio shows_______.	Long term financial position
10	_________ ratio calculates the relationship between the current assets and current liabilities	Current Ratio
11	What is the formula for calculation of current ratio?	Current assets/current liabilities
12	Assets purchased for the purpose of resale is known as_______.	Current Assets.

13	Current liability includes Creditors and Outstanding salary. (True/False)	True
14	Ideal ratio of current ratio is_________.	2:1
15	__________ratio is calculated by Quick assets/current liabilities.	Quick Ratio
16	Quick assets are calculated by _________.	Current assets – inventories- prepaid expenses
17	Ideal ratio of quick ratio is_________.	1:1
18	_________ measures the proportion of external funds and shareholder's funds invested in the company.	Debt to Equity Ratio
19	What is the formula for calculation of Debt-to-Equity Ratio?	Long Term Debt/Equity

20	Long Term Debt Includes only long-term borrowing. (True/False)	False
21	If Debt to Equity ratio is high it means the company is safe for investment. (True/False)	False
22	Relationship between total assets and long-term debts of the enterprise is shown by_________.	Total Assets to Debt Ratio
23	Higher Total Assets to Debt ratio means higher safety for lenders and a lower ratio means lower safety for lenders. (True/False)	True
24	_________measure the proportion of total assets financed by Proprietors' Funds.	Proprietary Ratio
25	Proprietary ratio is also known as _________	Equity Ratio
26	How we calculate Proprietary Ratio?	Proprietary fund/Total assets

27	__________ratio is used to measure how well a firm can pay the interest due on outstanding debt.	Interest Coverage Ratio
28	A company having low Interest Coverage Ratio is good for investment. (True/False)	False
29	Formula for calculating interest coverage ratio is_________.	EBIT/Interest Expense
30	________shows the profitability of the enterprise.	Profitability ratios
31	__________determines the efficiency with which production and/or purchase operations and are carried on.	Gross Profit Ratio
32	What is the formula for calculating gross profit ratio	Gross profit/Net sales X 100
33	Gross Profit is the excess of Net sales over_______.	Cost of goods sold

34	Cost of goods sold Is also known as________.	Cost of revenue from operations
35	If the selling price increases and the cost of revenue from operations is constant. Gross profit ratio decreases (True/False)	False
36	_________determines the operational efficiency of the business.	Operating profit ratio
37	Operating Profit ratio measures the relationship between operating Profit and__________.	Revenue from operations
38	Operating profit is calculated_______.	Net sales – Operating Cost
39	__________is a relationship between Net Profit and Revenue from Operations.	Net Profit Ratio
40	What is formula for calculating Net profit ratio?	Net Profit/Net sales X 100

41	_________ratio establishes a relationship between net profits before interest and tax and capital employed.	Return on Investment Ratio
42	_________refers to long term funds supplied by the long-term creditors and shareholders.	Capital employed
43	Capital Employed calculated as_________.	Shareholder fund+ Long term debt
44	Activity ratios are also known as________.	Turnover ratio
45	_________ratio measures efficiency of inventory management.	Inventory turnover ratio
46	A high Inventory turnover ratio indicates efficient performance in inventory management. (True/False)	True

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47	What is formula for calculating Stock (Inventory) Turnover Ratio?	Cost of goods sold / Average Inventory
48	_________ratio establishes the relationship between Net credit sales and average amount of trade receivable.	Trade receivables turnover ratio
49	Trade receivables turnover ratio is also known as________.	Debtors' turnover ratio
50	Debtors' turnover ratio indicates the speed with which the amount due is being realized from debtors. (True/False)	True
51	___________ ratio used to check the efficiency with which the Trade payables are paid.	Trade payables turnover ratio
52	What is the formula for calculating Trade payable turnover ratio?	Net credit purchases / Average trade creditors

53	Average Trade Payables = (Opening Creditors + Closing Creditors + Opening B/P + Closing B/P) ÷ 2 (True/False)	True
54	____________indicates the average period for which the credit purchases remain outstanding or average credit period actually availed.	Average payment period
55	_________ratio ascertain whether or not working capital has been effectively used in generating revenue.	Working capital turnover ratio