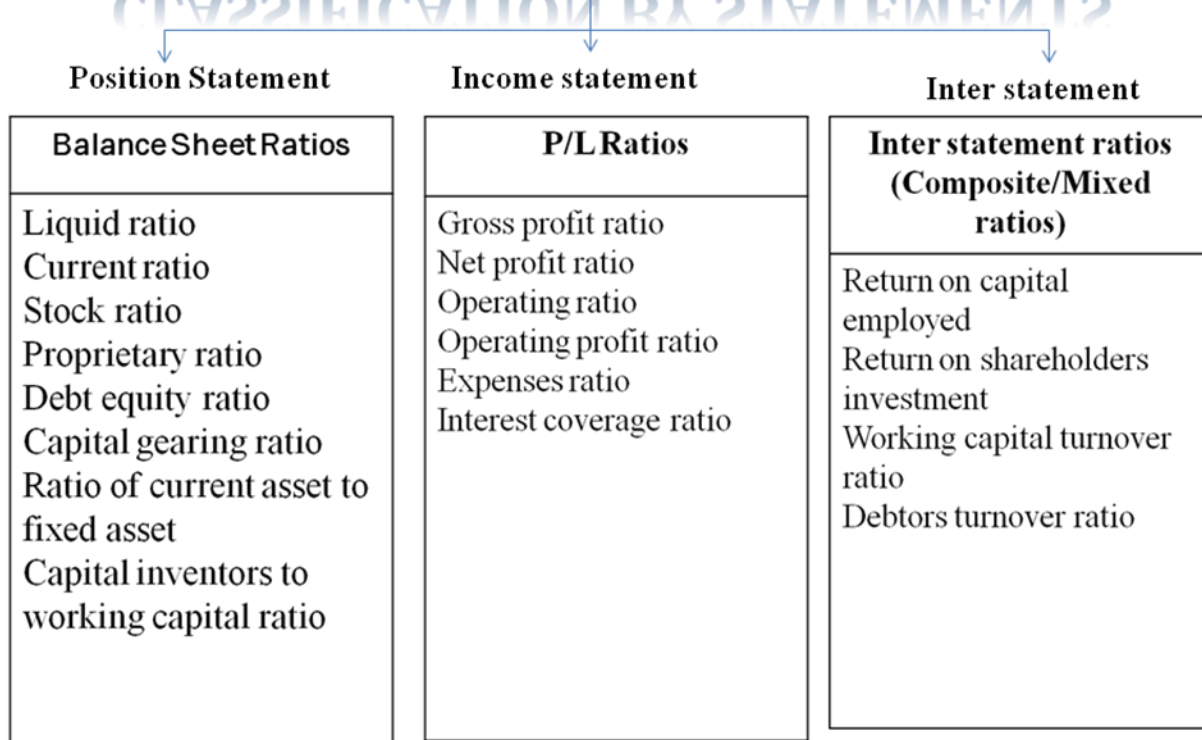


Classification of ratios

CLASSIFICATION BY USERS

Ratios for Management	Ratios for creditors	Ratios for Shareholders
Operating ratio Debtors turnover ratio Stock turnover ratio Solvency ratio Return on capital	Current Ratio Solvency Ratio Fixed Asset Ratio Creditors Turnover Ratio	Yield Ratio Proprietary Ratio Dividend Rate Capital Gearing Return on Capital Fund

CLASSIFICATION BY STATEMENTS



BALANCE SHEET RATIOS

1. Current Ratio
2. Liquidratio
3. Absoluteliquidratio(Cashpositionratio)
4. ProprietaryRatio
5. CapitalGearingRatio
6. Debt–EquityRatio
7. RatiotofixedassetstoCurrentAssets

1.Currentratio

Currentratiomaybe definedasthe relationship betweencurrentassetsand currentliabilities. Thisratioisalsoknowaworkingcapitalratio.

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

A ratio equal or near to the rule of thumb of

2:1, where the current asset double the current liability, is considered to be satisfactory.

Components of current ratio

Current Assets	Current liabilities
1. Cash in hand	1. Creditors
2. Cash at bank	2. Bills payable
3. Debtors	3. Bank overdraft
4. Bills receivable	4. Expenses outstanding
5. Prepaid expenses	5. Interest due or payable
6. Money at call and short notice	6. Installment payable on long term loans
7. Stock	7. Income tax payable
8. Sundry supplies	8. Any other amount which is payable in short period
9. Other amount receivable within a year	

Note : Bank overdraft arrangement facility with the bank is more or less permanent, therefore, it is insisted that this should be excluded when current ratio is calculated. At the same time, it can also be claimed that overdraft facility may be cancelled by the bank at any time. Thus, it is advisable to include bank overdraft in current liabilities

3. Liquid ratio

Liquid ratio is also known as acid test ratio or quick ratio or near money ratio. The term 'liquidity' refers to the ability of a firm to pay its short-term obligations as and when they become due

$$\text{Liquid Ratio} = \frac{\text{Quick or Liquid Assets}}{\text{Quick /Liquid Liabilities}}$$

Stock & Prepaid expenses is exclude from liquid assets on the ground that itis notconverted into cash in the immediate future. Liquid liabilities consist of all current liabilitiesminusbankoverdraft

RuleofThumbof1:1istobeconsideredsatisfactory

4. Absoluteliquidratio(cashpositionratio)

Absolute liquidity ratio is calculated when liquidity is highly restricted in terms of cashand cash equivalents.This ratio measures the relationship between cash and near cash items onthe onehandandimmediatelymaturingobligationsonthe other

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}} \text{ or } \frac{\text{Cash \& Bank + Short term securities}}{\text{Current Liabilities}}$$

The acceptable norm for this ratio is 0.5:1 or 1:2 i.e. Rs.1 worth absolute liquid assets areconsidered adequate to pay for Rs. Worth current liabilities in time as all the creditors are notaccepted to demand cash at the same time and, then, cash may also be realized from debtors andinventories

Proprietaryratio

Proprietary ratio is a test of the financial and credit strength of the business.It relatesshareholders funds to total assets.This ratio shows the long-term or future solvency of thebusiness.

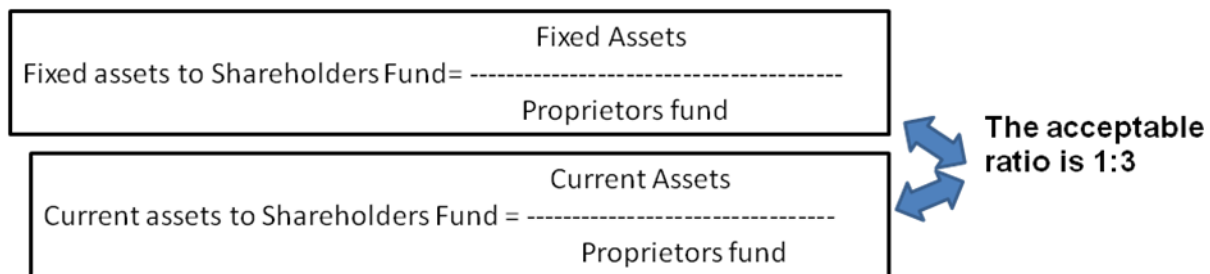
Proprietary ratio is also known as:worth debt ratio or net worth to total asset ratio orequity ratio net worth ratio or proprietors funds to total asset backing ratio. It is calculated eitherby dividing shareholders funds by the total assets or by dividing proprietors funds by total assetortotalfunds.

$$\text{Proprietary Ratio} = \frac{\text{Proprietors Funds}}{\text{Total Assets}}$$

The relationship is expressed as a pure ratio or as a percentage

Proprietor's funds include equity share capital, preference share capital, capital reserve, revenue reserve, surplus and undistributed profits less accumulated losses and unamortized miscellaneous expenditure items.

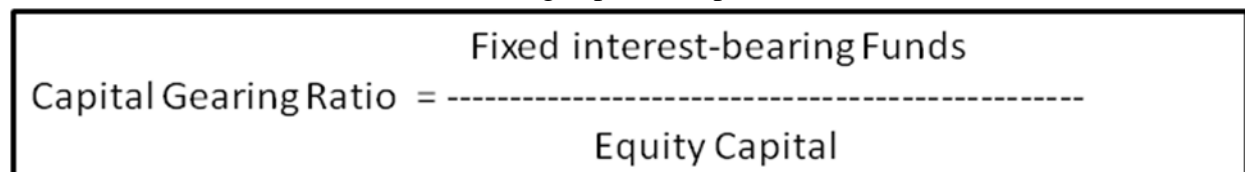
Proprietary ratios are also analyzed as a ratio of fixed assets to proprietor's funds and a ratio of current assets to proprietor's funds



Capital gearing ratio

Capital gearing ratio is also known as capitalization ratio or leverage ratio. This ratio brings out the relationship between two types of capital: that carries a fixed rate of dividend or interest and that does not carry a fixed rate of dividend or interest. It is a modified counterpart of debt equity ratio

Fixed interest or dividend – bearing capital comprises debentures, secured and



unsecured loans and preference share capital. Non-fixed interest or dividend-bearing fund is the equity share capital

The capital gearing reveals the company's capitalization. That is Equity ca

pital = Loan capital = Ever Gear

Equity capital > Loan capital = Low gear = Over-

capitalisation Equity Capital < Loan capital = High Gear = Under-

Capitalisation

Debt equity ratio

Debt-equity ratio expresses the relationship between the external and the internal equities or that between the borrowed capital and the owners capital.

$\text{Debt – Equity Ratio} = \frac{\text{Outsiders Funds}}{\text{Shareholders fund}}$	$\text{Debt – Equity Ratio} = \frac{\text{External Equities}}{\text{Internal Equities}}$
$\text{Debt – Equity Ratio} = \frac{\text{Total Long term debt}}{\text{Total long term funds}}$	$\text{Debt – Equity Ratio} = \frac{\text{Total long-term debt}}{\text{Shareholders Funds}}$

Shareholders' funds consist of preference share capital, equity share capital, capital reserve, revenue reserve, reserve for contingencies, redemption of debentures less fictitious assets. Outsiders funds include all debts/liabilities to outsiders: long-term and short-term.

Generally a ratio of 1:1 is considered to be satisfactory. Some business, say financial institutions, favours high ratio 2:1.

RATIO OF FIXED ASSETS TO CURRENT ASSETS

$\text{Fixed assets to Current Assets} = \frac{\text{Fixed Assets}}{\text{Current Assets}}$

Profits and loss account ratios

1. Gross profit ratio
2. Operating ratio
3. Expenses ratio
4. Operating profit ratio
5. Net profit ratio

1. Gross profit ratio

Gross profit ratio measures the relationship of gross profit to net sales and is usually represented as a percentage.

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

$$\text{Gross Profit Ratio} = \frac{\text{Sales} - \text{Cost of Goods sold}}{\text{Net sales}} \times 100$$

Cost of goods sold = Opening stock + Purchases + Direct Expenses – Closing stock
 A ratio of 25 to 30% may be considered good

2. Operating ratio

Operating ratio establishes relationship between the cost of goods sold and the other operating expenses and sales.

$$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net sales}} \times 100$$

$$\text{Operating Ratio} = \frac{\text{Cost of Goods sold} + \text{Operating Expenses}}{\text{Net sales}} \times 100$$

Cost of goods sold = Opening stock + Purchases + Direct Expenses – Closing stock
 Operating Expenses = Administrative exp. + Financial exp. + Selling Exp.

3. Expenses ratio

Expenses ratio is also known as supporting ratio to operating ratio. It becomes imperative that each aspect of cost of sales and/or operating expenses be analyzed in detail just to find out how far the concern is able to save or making over expenditure in respect of different items of expenses.

$$\text{Factory Expenses Ratio} = \frac{\text{Factory Expenses}}{\text{Net sales}} \times 100$$

$$\text{Administrative Expenses Ratio} = \frac{\text{Administrative Expenses}}{\text{Net sales}} \times 100$$

$$\text{Selling expenses Ratio} = \frac{\text{Selling Expenses}}{\text{Net sales}} \times 100$$

4. Operating Profit Ratio

This ratio establishes relationship between the operating net profit and sales.

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

(or)

$\text{Operating Profit Ratio} = 100 - \text{Operating Ratio}$.

$\text{Operating Profit} = \text{Net Profit} + \text{Non-operating expenses} - \text{Nonoperating Income}$

(or)

$= \text{Sales} - (\text{Cost of goods sold} + \text{administrative expenses} + \text{selling \& distribution expenses})$

5. Net Profit Ratio

Net profit ratio is also called net profit to sales ratio. Profit margin is indicative of the management's ability to operate the business with sufficient success not only to recover from the revenues of the period, the cost of merchandise or services, the expense of operating the business and the cost of borrowed funds, but also to leave a margin of reasonable compensation to the owners for providing their capital at risk. Higher the ratio of net operating profit to sales, better is the operational efficiency of the concern.

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

Interstatement ratios

1. Stock turnover ratio

2. Debtorsturnoverratio
3. Creditorsturnoverratio
4. Workingcapitalturnoverratio

1. Stockturnoverratio

Stock turnover ratio is also known as inventory ratio or inventor turnover ratio or stockturn ratio or merchandise turnover ratio or stock velocity ratio or simply velocity of stock. Thisratio measures the number of times the stock turns, flows or rotates in an accounting periodcomparedtothe sales effectedduringthatperiod.

$$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} \times 100$$

$$\text{Stock Turnover Ratio} = \frac{\text{Net sales}}{\text{Average Inventory at cost}} \times 100$$

The number of times the inventory has been sold and replaced during a given period of time

$$\text{Stock Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Inventory at Selling Price}} \times 100$$

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

Cost of Goodssold = Sales – Grossprofit

Cost of goods sold = Opening stock + purchases + Direct expenses – Closing stock
 Note: If opening stock is not known, closing stock can be taken

2. Debtorsturnoverratio

Debtorsturnover ratio or debtors velocity is alternatively known as turnover of debtorsratio or accounts receivable ratio.This ratio attempt to measure the collectability of debtors andotheraccountreceivables.

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

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

TradeDebtors= Sundrydebtors+ BillsreceivablesorAccountsreceivable

Iftheinformationinrespectofcreditsalesandaveragedebtorsisnotavailable,themethodto calculate thedebtorsturns overratio

$$\text{Debtors Turnover Ratio} = \frac{\text{Total Sales}}{\text{Closing Debtors}}$$

Debtorscollectionperiod

It indicates the extent to which the debts have been collected in time.It gives the averagedebtcollectionperiod.

$$\frac{\text{No. of working days in a year}}{\text{Debtors turnover}}$$

$$\frac{\text{Average Debtors X Months in a year}}{\text{Net credit sales for the year}}$$

$$\frac{\text{Accounts Receivable}}{\text{Average monthly or daily credit sales}}$$

3. Creditors turnover ratio

Creditors turnover ratio is also known as Accounts payable or creditors velocity. It shows the speed with which payments are made to the suppliers for the purchase of goods from them. It is a relationship between net credit purchase and average creditors

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

$$\text{Average Payment period} = \frac{\text{Average Trade creditors (Creditors + Bills receivable)}}{\text{Average Daily Purchase}}$$

$$\text{Average Daily purchase} = \frac{\text{Annual purchase}}{\text{No. of Working days in a year}}$$

$$\text{Average Payment Period} = \frac{\text{Number of working days}}{\text{Creditors Turnover ratio}}$$

4. Working capital turnover ratio

Working capital turnover ratio indicates the number of times the working capital is turned over in the course of a year. It measures the efficiency with which the working capital is used by the firm. It helps in determining the liquidity of a firm in as much as it gives the rate at which inventories are converted to sales and then to cash. A high ratio indicates the efficient utilization of working capital and a low ratio indicates otherwise. But a very high ratio is not good for the firm.

$$\text{Working capital turnover ratio} = \frac{\text{Cost of sales (Or sales)}}{\text{Net Working Capital}}$$

Working capital = Current assets – Current liabilities

Overall profitability ratio

1. Return on shareholder investment
2. Return on equity capital
3. Earnings per share
4. Return on capital employed

1. Return on shareholder investment

Return on shareholder's investment, popularly known as ROI, is the relationship between net profit (after interest and tax) and the proprietor's funds.

$$\text{Return on shareholder's investment} = \frac{\text{Net profit (after interest and tax)}}{\text{Shareholder's funds}} \times 100$$

Shareholder's funds include equity share capital + Preference share capital + Reserves & Surpluses less accumulated losses.

Net profit = Net profit after payment of interest and taxes

Return on equity capital (rec)

$$\text{Return on Equity capital} = \frac{\text{Net profit (after interest and tax) - Preference Dividend}}{\text{Equity share capital}} \times 100$$

This ratio is meaningful to the equity shareholders, and the interpretation is the higher the ratio, the better the result.

Earnings per share (EPS)

Earnings per share are calculated by dividing the net profit after taxes and preference dividend by the total number of equity share holders.

$$\text{EPS} = \frac{\text{Net profit (after interest and tax) - Preference Dividend}}{\text{No. of equity shares}}$$

Return on Capital Employed

Return on capital employed establishes the relationship between profits and the capital employed. The term capital employed refers to the total of investments made in a business.

1. Gross Capital Employed

$$\text{Return on Gross Capital Employed} = \frac{\text{Adjusted Net Profits}}{\text{Gross Capital Employed}} \times 100$$

2. Net Capital Employed

$$\text{nonNetCapitalEmployed} = \frac{\text{AdjustedNetprofitsRetur}}{\text{NetCapitalEmployed}} \times 100$$

3. ProprietorsNetCapitalEmployed

$$\text{NetprofitsReturnonProprietorsNetCapitalEmployed} = \frac{\text{Adjusted ProprietorsCapitalEmployed}}{\text{ProprietorsCapitalEmployed}} \times 100$$

a) Grosscapitalemployed:

$$\text{FixedAssets} + \text{CurrentAssets}$$

b) NetCapitalEmployed = Totalassets – Currentliabilities

c) ProprietorsNetCapitalEmployed = FixedAssets + CurrentAssets –
OutsideLiabilities (Bothlongtermandshortterm)

Markettest orvaluationratios

1. Dividendyieldratio
2. Dividendpayoutratio
3. Priceearningratio
4. Earningyieldratio

1. Dividendyieldratio

Dividendyieldratioiscalculated
toevaluatetherelationshipbetweendividendpersharepaidandthemarketvalueoftheshare.

$$\text{Dividend Yield Ratio} = \frac{\text{Dividend per share}}{\text{Market Value per share}}$$

$$\text{Dividend Per share} = \frac{\text{Dividend paid to shareholders}}{\text{Number of Shares}}$$

Dividend pay-out ratio

Dividend pay-out ratio or simply pay-out ratio is calculated to find the extent to which earnings per share have been retained in the business. It is an important ratio because ploughing back of profits enables a company to grow and pay more dividends in future.

$$\text{Dividend Pay-out ratio} = \frac{\text{Dividend per equity share}}{\text{Earning per share}}$$

Price-earning ratio (P/E Ratio)

Price-earning ratio is the ratio between market price per equity share and earnings per share. This ratio is calculated to make an estimate of appreciation in the value of a share of a company and is widely used by investors to decide whether or not to buy shares in a particular company. This ratio is calculated as

$$\text{Price – Earning Ratio} = \frac{\text{Market price per equity share}}{\text{Earning per share}}$$

Generally, the higher the price-earning ratio, the better it is.

If P/E ratio falls, the man

agements should look into its causes.

Earnings-yield ratio

Earnings-yield ratio also shows a relationship between earnings per share and market value of shares. It can be calculated as follows.

$$\text{Earnings-Yield Ratio} = \frac{\text{Earnings per share}}{\text{Market price per share}} \times 100$$

RATIO ANALYSIS (IMPORTANT RATIOS)

I. BALANCE SHEET RATIOS

Current Assets

1. Current Ratio = _____

Current Liabilities

$$\text{Quick or Liquid Assets}^2$$

$$\text{.Liquid Ratio} = \frac{\text{Quick or Liquid Assets}^2}{\text{Quick/Liquid Liabilities}}$$

$$\text{Absolute Liquid Assets} \quad \text{Cash \& Bank + Short term securities}^3$$

$$\text{Absolute Liquid Ratio} = \frac{\text{Absolute Liquid Assets}}{\text{Current Liabilities}} \quad \text{(or)} \quad \frac{\text{Cash \& Bank + Short term securities}^3}{\text{Current Liabilities}}$$

$$\text{Proprietors Funds}$$

$$4. \text{Proprietary Ratio} = \frac{\text{Proprietors Funds}}{\text{Total Assets}}$$

$$4.1 \text{ Fixed asset to Shareholders Fund} = \frac{\text{Fixed Assets}}{\text{Proprietor's fund}}$$

$$4.2 \text{ Current asset to Shareholders Fund} = \frac{\text{Current Assets}}{\text{Proprietor's fund}}$$

$$5. \text{Capital Gearing Ratio} = \frac{\text{Equity}}{\text{Capital}}$$

sFunds

6.1. Debt-Equity Ratio = $\frac{\text{Debt}}{\text{Equity}}$

Shareholdersfund

ExternalEquities

6.2. Debt-Equity Ratio = $\frac{\text{Total Long-term Debt}}{\text{Total Long-term Funds}}$

InternalEquities

Total Long-term Debt

Debt-Equity Ratio = $\frac{\text{Total Long-term Debt}}{\text{Total Long-term Funds}}$

Total long term funds

ExternalEquities

6.4. Debt-Equity Ratio = $\frac{\text{Total Long-term Debt}}{\text{Total Long-term Funds}}$

InternalEquities

Total long-term

6.5 Debt-Equity Ratio = $\frac{\text{Total Long-term Debt}}{\text{Total Long-term Funds}}$

—

Shareholders Funds

Fixed Assets

7. Fixed Assets to Current Assets = $\frac{\text{Fixed Assets}}{\text{Current Assets}}$

Current Assets

II: PROFITS AND LOSS ACCOUNT RATIOS

Gross Profit

$$8.1 \text{ Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \times 100$$

Net Sales

Sales - Cost of Goods Sold

$$8.2 \text{ Gross Profit Ratio} = \frac{\text{Sales} - \text{Cost of Goods Sold}}{\text{Net Sales}} \times 100$$

Net

sales Operating

Cost

$$9.1 \text{ Operating Ratio} = \frac{\text{Net Sales} - \text{Operating Cost}}{\text{Net Sales}} \times 100$$

Net sales

Cost of Goods Sold + Operating Expenses

$$9.2 \text{ Operating Ratio} = \frac{\text{Net Sales} - \text{Cost of Goods Sold} - \text{Operating Expenses}}{\text{Net Sales}} \times 100$$

Net sales

Factory Expenses

$$10.1 \text{ Factory Expenses Ratio} = \frac{\text{Factory Expenses}}{\text{Net Sales}} \times 100$$

Net sales

Administrative Expenses

$$10.2 \text{ Administrative Expenses Ratio} = \frac{\text{Administrative Expenses}}{\text{Net Sales}} \times 100$$

Net sales

SellingExpenses

$$10.3. \text{Selling expenses Ratio} = \frac{\text{SellingExpenses}}{\text{Net sales}} \times 100$$

Net

salesOperatingProfit

$$11. \text{Operating profit ratio} = \frac{\text{Operating Profit}}{\text{Net sales}} \times 100$$

Sales

Netprofit

$$12. \text{Net profit Ratio} = \frac{\text{Net profit}}{\text{Net sales}} \times 100$$

Netsales

III: INTERSTATEMENT RATIOS

Cost of Goods Sold

$$13.1. \text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} \times 100$$

Average

StockNetsales

$$13.2. \text{Stock Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Inventory at cost}} \times 100$$

AverageInventoryatcostN

etSales

$$13.3. \text{Stock Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Inventory at Selling Price}} \times 100$$

AverageInventoryatSellingPrice

Opening stock +Closing Stock

13.4.Average Stock=—————

2

CreditSales

14. DebtorsTurnover Ratio=—————

AverageTradeDebtors

Opening Trade Debtors + Closing Trade

Debtors 14.1.AverageTradeDebtors= —————

—————

2

TotalSales

14.2.DebtorsTurnoverRatio=—————

Closing Debtors

14.3.Debtorscollectionperiod

Months inayear

—————

Debtor's

turnover(or)

AverageDebtorsXMonthsinayear

—————

Net credits sales for the year

(or) Accounts

Receivable

Average

monthly or daily credits sales Net

Credit Purchase

15. Creditors Turnover Ratio = $\frac{\text{Net Credits Sales for the year}}{\text{Average Trade Creditors}}$

Average Trade Creditors

Average Trade Creditors (Creditors + Bills Receivable) 15.

1. Average Payment Period = $\frac{\text{Average Trade Creditors}}{\text{Average Daily Purchase}}$

Average Daily Purchase

Annual Purchase

15.2. Average Daily Purchase = $\frac{\text{Annual Purchase}}{\text{Number of Working Days in a Year}}$

No. of Working Days in a Year

Number of Working Days

15.3. Average Payment Period = $\frac{\text{Average Trade Creditors}}{\text{Average Daily Purchase}}$

Creditors Turnover Ratio

Cost of Sales (or Sales)

16. Working Capital Turnover Ratio = $\frac{\text{Net Sales}}{\text{Net Working Capital}}$

Net Working Capital

IV: OVERALL PROFITABILITY RATIO

$$17. \text{Return on shareholder's investment} = \frac{\text{Net profit (after interest and tax)}}{\text{Shareholder's funds}} \times 100$$

$$18. \text{Return on Equity capital} = \frac{\text{Net profit (after interest and tax)} - \text{Preference Dividend}}{\text{Equity share capital}} \times 100$$

$$19. \text{EPS} = \frac{\text{Net profit (after interest and tax)} - \text{Preference Dividend}}{\text{No. of equity shares}}$$

20. Return on Capital Employed

$$20.1. \text{Return on Gross Capital Employed} = \frac{\text{Adjusted Net profits}}{\text{Gross Capital Employed}} \times 100$$

$$20.2. \text{Return on Net Capital Employed} = \frac{\text{Adjusted Net profits}}{\text{Net Capital Employed}} \times 100$$

Net Capital Employed

20.3. Return on Proprietors Net Capital Employed =

Adjusted Net profits

————— x 100

Proprietors Capital Employed

V: MARKET TEST OR VALUATION RATIOS

Dividend per share

21. Dividend Yield Ratio = —————

Market Value per share

Dividend paid to shareholders 21.1.

Dividend Per share = —————

Number of Shares

Dividend per equity

share 22. Dividend Pay-out ratio = —————

—

Earnings per share

Market price per equity share

23. Price-EarningRatio= _____

Earningpershare

Earningspershare

24. Earnings- YieldRatio= _____X100

Marketpricepershare