RATIO ANALYSIS

ANSWERS

1.Closing stock of a company is Rs 2,00,000. Total liquid assets are Rs 10,00,000. Liquid Ratio is 2:1. Find out working capital

- Working capital= Current assets-current liabilities

Liquid assets= CA-stock

CA=LA+ STOCK

= 10,00,000+200000=12,00,000

LIQUID RATIO= $\frac{\text{LA}}{\text{LL or CL}}$

2/1=10,00,000/CL

2CL=10,00,000

CL=10,00,000/2=5,00,000

WK=CA-CL

=12,00,000-5,00,000

=7,00,000

Solution 2

2. Cost of goods sold is Rs

- Let the closing stock be X and opening stock be X+6,000

STOCK TURNOVER RATIO= COST OF GOODS SOLD

AVERAGE STOCK

6/1= 2,40,000/AVG STOCK

6AVG STOCK=2,40,000

AVG STOCK=2,40,000/6= 40,000.

AVG STOCK= OPENING STOCK+CLOSING STOCK

2

40,000= (X+6,000)+X

2

40,000*2=2X+6000

80,000=2X+6,000

80,000-6,000=2X

74000=2X

X=74,000/2=37,000

X=CLOSING STOCK=37,000

OPENING STOCK=X+6,000

=37,000+6,000= 43,000.

3. Given current ratio is 3.75, working capital is Rs 3,57,500. Calculate the amount of current assets &current liabilities

- CURRENT RATIO= CURRENT ASSETS / CURRENT LIABILITIES

CR=CA:CL

3.75 : 1=CA:CL

CA-CL=WK

3.75-1=3,57,500

2.75=3,57,500

CA=3,57,500* 3.75= 4,87,500.
2.75

CL= 3,57,500* 1 = 1,30,000
2.75

4. If the current ratio is 3:1, quick ratio is 1:1 and current liabilities are Rs 1,80,000. Find quick assets

- **QUICK RATIO= $\frac{\text{QUICK ASSETS}}{\text{QUICK LIABILITIES or CURRENT LIABILITIES.}}$**

$\frac{1}{1} = \frac{QA}{1,80,000}$

QA= 1,80,000

5. If profit after interest and tax is Rs 25,000, interest charged is Rs 5,000. Provision for taxes is Rs 10,000. Find Interest coverage ratio

- **INTEREST COVERAGE RATIO= $\frac{\text{EBIT}}{\text{FIXED INTEREST CHARGES}}$**

= $\frac{25000+5,000+10,000}{5000}$

=8 TIMES

6. If gross profit is Rs 80,000 (25% of sales), opening stock is Rs 29,000 (Rs 2,000 less than closing stock). Find Stock turnover ratio

- **STOCK TURNOVER RATIO= $\frac{\text{COST OF GOODS SOLD}}{\text{AVERAGE STOCK}}$**

SALES-CGS=GROSS PROFIT

100-75=25

25=80,000

SALES= 80,000*100/25=3,20,000

CGS= 2,40,000(SALES-GP)

AVERAGE STOCK= $\frac{\text{OPENING STOCK+CLOSING STOCK}}{2}$

=29,000+(29,000+2,000)/2

=60,000/2= 30,000.

STR=2,40,000/30,000

=8TIMES

7. Gross profit is 20% on sales, cost of goods sold is Rs 3,00,000. Find out sales

- **GP=SALES-CGS**

20=100-80

80=3,00,000

$$\text{SALES} = 3,00,000 * \frac{100}{80}$$

=3,75,000

8. Current ratio is 2.5. Working capital Rs 9,00,000. Calculate current assets and current liabilities

- **CURRENT RATIO= $\frac{\text{CURRENT ASSETS}}{\text{CURRENT LIABILITIES}}$**

CR=CA:CL

2.5: 1= CA:CL

CA-CL=WK

2.5-1=9,00,000

1.5=9,00,000

CA=9,00,000*2.5/1.5= 15,00,000.

CL=9,00,000*1/1.5= 6,00,000

9. Stock turnover is 5 times. Average stock is Rs 60,000. Rate of Gross profit is 20% on sales. Calculate sales and gross profit

- **STOCK TURNOVER RATIO= $\frac{\text{COST OF GOODS SOLD}}{\text{AVERAGE STOCK}}$**

5/1=CGS/60,000

CGS=3,00,000

SALES-CGS=GP

100-80=20

80=3,00,000

SALES=3,00,000*100/80=3,75,000

GP= SALES-CGS

10.Average stock of a firm is Rs 50,000, its opening stock is Rs 10,000 less than closing stock. Find out the opening & closing stock

- **Let the closing stock be X and the opening stock will be X-10,000.**

AVERAGE STOCK= $\frac{\text{OPENING STOCK+CLOSING STOCK}}{2}$

$50{,}000=\frac{(X-10{,}000)+X}{2}$

$1{,}00{,}000=2X-10{,}000$

$1{,}10{,}000=2X$

$X=1{,}10{,}000/2=55{,}000$

CLOSING STOCK=X=55,000.

OPENING STOCK=X-10,000

=55,000-10,000=45,000.

11. Turnover to fixed assets ratio is 4: 5.4, cost of sales is Rs 4,28,000. Compute the value of fixed assets

- FIXED ASSET TURNOVER RATIO= $\frac{\text{COST OF SALES}}{\text{FIXED ASSETS}}$

$\frac{4}{5.4} = \frac{4,28,000}{FA}$

$4FA = 4,28,000 * 5.4$

$4FA = 23,11,200$

$FA = 23,11,200/4$

$= 5,77,800$

12. Given current ratio is 3.75, working capital is Rs 3,57,500. Calculate the amount of current assets and current liabilities

- CURRENT RATIO= $\frac{\text{CURRENT ASSETS}}{\text{CURRENT LIABILITIES}}$

CR=CA:CL

3.75:1= CA:CL

WK= CA-CL

=3.75-1= 2.75, therefore WK=2.75=3,57,000

CA=3,57,000*$\frac{3.75}{2.75}$ =4,86,818.

CL= 3,57,000* $\frac{1}{2.75}$ = 1,29,818.

13. Gross profit ratio of a firm is 25%. Gross profit is Rs 1,00,000. Calculate the sales & cost of sales

- SALES-COST OF GOODS SOLD= GROSS PROFIT

100-75=25, and 25=1,00,000

SALES= 1,00,000* $\frac{100}{25}$ = 4,00,000

CGS= 1,00,000* $\frac{75}{25}$ = 3,00,000

14. Gross profit of firm is 25%. Gross profit Rs 1,00,000. Calculate Cost of goods sold

- SALES-COST OF GOODS SOLD=GROSS PROFIT

100-75=25 and 25= 1,00,000

CGS= 1,00,000* $\frac{75}{25}$ =3,00,000

15. Average stock of a firm is Rs 50,000, its opening stock is Rs 5,000 less than closing stock. Find out the opening & closing stock

- **Let the closing stock be X and the opening stock will be X-5,000.**

AVERAGE STOCK= $\frac{\text{OPENING STOCK+CLOSING STOCK}}{2}$

$50{,}000=\frac{(X-5{,}000)+X}{2}$

$1{,}00{,}000=2X-5{,}000$

$1{,}05{,}000=2X$

$X=1{,}05{,}000/2=52{,}500$

CLOSING STOCK=X=52,500.

OPENING STOCK=X-10,000

=52,500-10,000=42,500.

16. Cost of goods sold is Rs 5,00,000. Gross profit 20% on sales, cash sales are 25% of credit sales. Find out credit sales

- **SALES-COST OF GOODS SOLD= GROSS PROFIT**

100-80=20, AND 80= 5,00,000

SALES=5,00,000*$\frac{100}{80}$ =6,25,000

TOTAL SALES= CASH SALES+ CREDIT SALES

6,25,000= 25% of X + X

6,25,000=0.25X + X

6,25,000=1.25X

X=$\frac{6,25,000}{1.25}$ = 5,00,000

CREDIT SALES=X= 5,00,000

CASH SALES= 25% of X= 5,00,000*25%= 1,25,000.

17. If current ratio is 2.5, liquid ratio is 1.5. working capital is 75,000. Calculate inventory

- CURRENT ASSETS-CURRENT LIABILITIES= WORKING CAPITAL

2.5-1=75,000, 1.5=75,000.

CA= 75,000*2.5= 1,25,000

1.5

CL=75,000* 1 = 50,000

1.5

LIQUID RATIO= CA-INVENTORY

LL/CL

1.5 = 1,25,000-INVENTORY

1 50,000

75,000= 1,25,000-INVENTORY

INVENTORY=1,25,000-75,000= 50,000

18. Stock turnover ratio is 5 times. Average stock is Rs 20,000. Rate of gross profit on sales is 20% . Calculate sales & gross profit

- STOCK TURNOVER RATIO= COST OF GOODS SOLD / AVERAGE STOCK

5= CGS / 1 , CGS=1,00,000

1 20,000

SALES-CGS=GP

100-80=20, 80=1,00,000

SALES= 1,00,000*100/80 = 1,25,000

GP=1,00,000*20/80 = 25,000

19. Current assets consist of stock, debtors & cash in the ratio 4:3:2 respectively. Debtors is Rs 45,000. Calculate stock, cash & current assets

- CURRENT ASSETS= STOCK+DEBTORS+CASH

9= 4+3+2

DEBTORS= 3= 45,000

CA=45,000*9/3= 1,35,000

STOCK= 1,35,000*4/9=60,000

CASH= 1,35,000*2/9= 30,000

CA= STOCK+DEBTORS+CASH

1,35,000= 60,000+45,000+30,000

1,35,000= 1,35,000

20. If current ratio is 2.5/ liquid ratio is 1.5 and working capital is Rs 50,000. Find out current assets and inventory

- **CURRENT ASSETS-CURRENT LIABILITIES=WORKING CAPITAL**

2.5-1=50,000, 1.5=50,000

CA=50,000*2.5/1.5= 83,333

CL=50,000* 1/1.5= 33,333

LIQUID RATIO=LIQUID ASSETS OR LR = CA-INVENTORY

LIQUID LIABILITIES/CURRENT LIABILITIES CL

1.5 = 83,333-INVENTORY

1 33,333

50,000=83,333-INVENTORY

INVENTORY=83,333-50,000

INVENTORY=33,333

21.If profit after interest & tax is Rs 1,00,000 ,interest paid is Rs 10,000 & provision for tax is Rs 15,000. Calculate interest coverage ratio

- INTEREST COVERAGE RATIO = $\frac{\text{EBIT}}{\text{FIXED INTEREST CHARGES}}$

ICR= $\frac{(1,00,000+10,000+15,000)}{10,000}$

= $\frac{1,25,000}{10,000}$

=12.5 Times

22. Gross profit ratio 20% on sales, Gross profit Rs 1,00,000, cash sales Rs 1,20,000, Average debtors Rs 95,000. Calculate debtors turnover ratio

- DEBTORS TURNOVER RATIO= NET CREDIT SALES / AVERAGE DEBTORS

SALES-CGS=GP, 100-80=20, 20=1,00,000

SALES= 1,00,000*100/20= 5,00,000

TOTAL SALES= CASH SALES+ CREDIT SALES

5,00,000= 1,20,000+ CREDIT SALES

5,00,000-1,20,000= CREDIT SALES

CREDIT SALES= 3,80,000

DTR= 3,80,000 / 95,000

= 4 Times

23. X ltd has a quick ratio of 3:1 and current liabilities of Rs 1,00,000. Stock in trade is Rs 50,000. Find out its current assets & current ratio

- QUICK RATIO= QUICK ASSETS / QUICK LIABILITIES/ CURRENT LIABILITIES

3/1 = QA/1,00,000 = 3,00,000

CA-STOCK= QA

CA-50,000=3,00,000

CA=3,00,000+50,000= 3,50,000

- CURRENT RATIO=CA/CL

= 3,50,000/1,00,000

=3.5 TIMES

24. Calculate creditors turnover ratio from the following information – Opening stock Rs 50,000, Purchase return Rs 10,000, Cash paid to creditors Rs 2,60,000, Closing creditors Rs 30,000

- CREDITORS TURNOVER RATIO= NET CREDIT PURCHASES / AVERAGE CREDITORS

PURCHASES= Closing creditors+ cash paid to crs+ purchase return- opening crs

= 30,000+2,60,000+10,000-50,000

=2,50,000.

Avg Creditors= op crs+ cl crs / 2 = 50,000+30,000 / 2 = 40,000

CTR= 2,50,000 / 40,000 = 6.25 Times

- 25. The capital of a company is as follows,

9% preference shares of Rs 10 each	Rs 3,00,000
Equity shares of Rs 10 each	Rs 8,00,000
8% Debentures	Rs 10,00,000
Profit after tax	Rs 2,70,000
Equity dividend paid	20 %
Market price of equity shares	Rs 40

Calculate:- Debt equity ratio, Capital gearing ratio, Earnings per equity share, Price earnings ratio.

25. solution

A. DEBT EQUITY RATIO= $\frac{\text{LONG TERM DEBT}}{\text{SHAREHOLDERS FUND}}$

LONG TERM DEBT= DEBT + LOAN= 1,00,000

SHAREHOLDERS FUND= EQUITY SHARES+PREF SH+ R & S+ P& L

= 8,00,000+3,00,000+2,70,000

=13,70,000

DER= $\frac{10,00,000}{13,70,000}$ = 0.73 Times

B. CAPITAL GEARING RATIO= FIXED INTEREST and DIVIDEND BEARING SECURITIES

EQUITY SHARE HOLDERS FUNDS

Fixed interest bearing securities= Debentures+ preference shares

=10,00,000+3,00,000 = 13,00,000

Equity shareholders fund= Equity shares+ profit*

= 8,00,000+(2,70,000-preference share dividend)

=8,00,000+2,43,000

=10,43,000

CGR=13,00,000 = 1.25 Times

10,43,000

*3,00,000 X 9%= 27,000.

C. EARNINGS PER EQUITY SHARE= Net profit available to equity shareholders

Number of equity shares

= 2,43,000 = 3.04 per share.

80,000

D. PRICE EARNING RATIO= Market price per share

Earnings per share

= 40 = 13.16

3.04

26. Calculate Debt equity Ratio & Interest Coverage Ratio from the following information-

- Equity share capital Rs 21,00,000
- Preference share capital Rs 4,00,000
- Preliminary expenses Rs 40,000
- Net profit before interest & tax Rs 3,00,000
- Interest Rs 60,000
- Debentures Rs 5,00,000
- Loan Rs 4,00,000
- Tax Rs 1,00,000

26. Solution

A. DEBT EQUITY RATIO= LONG TERM DEBT / SHAREHOLDERS FUND

Long term debt= Debt+ loan= 5,00,000+4,00,000= 9,00,000

Shareholders fund= Equity Sh+ Preference Sh+ R & S+P & L- Preliminary expenses

= 21,00,000+4,00,000+2,40,000+1,40,000-40,000 =28,40,000

DER= 9,00,000/28,40,000= 0.32 Times

B. INTEREST COVERAGE RATIO= EBIT / Fixed interest charges

= 3,00,000 / 60,000

=5 Times

27. Given
Current Ratio 1.4
Liquid Ratio 1
Stock turnover Ratio (closing stock) 8
Gross profit ratio 20%
Sales for the year Rs 10,00,000
From the above information calculate working capital

27.SOLUTION

- **STOCK TURNOVER RATIO= COST OF GOODS SOLD / AVERAGE STOCK**

Sales- CGS= GP

100-80= 20, 100= 10,00,000

CGS= 10,00,000*80%= 8,00,000, GP= 10,00,000* 20%= 2,00,000.

8= 8,00,000

1 AVG STOCK

8 AVG STOCK= 8,00,000,

Avg stock=8,00,000/8

= 1,00,000

CR= 1.4= 1.4:1

LR= 1= 1:1

- CA-STOCK=LA

1.4-0.4=1, 0.4=1,00,000

CA= 1,00,000* $\frac{1.4}{0.4}$ = 3,50,000

CL=1,00,000* $\frac{1}{0.4}$ = 2,50,000

WORKING CAPITAL= CA-CL

= 3,50,000-2,50,000

=1,00,000

28. The following information given belongs to ABC ltd for the year ending 31st march 2015

- Stock turnover ratio= 6 times
- Gross profit ratio = 20 % on sales
- Sales Rs 2,00,000
- Closing stock is Rs 10,000 more than the opening stock
- Opening creditors Rs 20,000
- Closing creditors Rs 30,000
- Net working capital Rs 50,000

Find out- Average stock, Average payment period, Purchases, Working capital turnover ratio.

28. SOLUTION

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

Let opening stock be X and closing stock will be X+10,000

STR-CGS/AVG STOCK

SALES-CGS=GP

100-80=20, 100=2,00,000

CGS= 2,00,000*80%= 1,60,000

$\frac{6}{1} = \frac{1,60,000}{\text{AVG STOCK}}$

6AVG STOCK=1,60,000

AVG STOCK=1,60,000/6= 26,667

B. AVERAGE PAYMENT PERIOD = No of days in a year

Creditors turnover ratio

CTR= Total Purchases

Average creditors

Avg Creditors= 20,000+30,000 =50,000 = 25,000

2 2

CTR= 1,70,000 =6.8 times

25,000

C. Purchases= Closing stock- opening stock+ cost of goods sold

Avg stock= opening stock+ closing stock/ 2

$$26{,}667 = \frac{X + X + 10{,}000}{2}$$

$$53{,}334 = 2X + 10{,}000$$

$$53{,}334 - 10{,}000 = 2X, \quad 43{,}334 = 2X, \quad X = 43{,}334/2 = 21{,}667$$

Opening stock= X=21,667, Closing stock= x+10,000= 31,667

Purchases= 31,667-21,667 +1,60,000= 1,70,000

D. Working Capital turnover ratio

$$\text{WCTR} = \frac{\text{Sales}}{\text{Net Working Capital}} = \frac{2{,}00{,}000}{50{,}000} = 4 \text{ times}$$

29. From the following calculate

- Debtors turnover ratio
- Debt collection period in months

Total sales for the year Rs 3,75,000

Cash sales for the year Rs 75,000

At the beginning of the year-

Debtors Rs 30,000,

Bills receivable Rs 10,000

At the end of the year-

Debtors Rs 45,000, Bills receivable Rs 15,000

SOLUTION 7

A. DEBTORS TURNOVER RATIO= $\frac{\text{Credit Sales}}{\text{Average Accounts Receivable}}$

Total sales-cash sales= Credit sales

3,75,000-75,000= 3,00,000

Avg accounts receivable= $\frac{\text{Opening A/R+ Closing A/R}}{2}$

40,000+60,000/2= 50,000

DTR= 3,00,000/50,000= 6 Times

B. Debt collection period in months

DCP= $\frac{\text{No of days in a year}}{\text{DTR}} = \frac{365}{6}$ = 60.83 DAYS OR $\frac{12}{6}$ = 2 MONTHS

30. Prepare the balance sheet of a company as on 31/03/2018 with the following details

- Current ratio : 1.75
- Liquid ratio : 1.25
- Stock turnover ratio : 9 times
- Gross profit ratio : 25%
- Debt collection period : 1.5 months
- Reserves & surplus to capital : 0.20
- Turnover of fixed assets : 1.2 (cost of goods sold/ fixed assets)
- Capital gearing ratio : 0.50
- Fixed asset to net worth ratio : 1.25

30.SOLUTION

- **Calculation of Gross Profit**

GP=25% OF Sales

= 12,00,000*25%= 3,00,000

- **Calculation of Cost of goods sold**

Sales-CGS=GP, Therefore CGS= Sales- GP

=12,00,000-3,00,000= 9,00,000

- **Calculation of Stock**

Stock turnover ratio= CGS/ Average stock

9= 9,00,000 , 9avg stock =9,00,000, Avg stock= 9,00,000/9= 1,00,000

1 Avg Stock

- Calculation of Current assets, Current liabilities and Liquid assets

CA-Stock= LA

1.75-0.50=1.25 AND 0.50= 1,00,000(AVG STOCK CALCULATED)

CA= 1,00,000*1.75/0.50= 3,50,000

CL= 1,00,000*1/0.50= 2,00,000

LA= 1,00,000*1.25/0.50= 2,50,000

- Calculation of Debtors

Debtors Turnover Ratio= Credit Sales*$\frac{\text{Debt Collection Period}}{12}$

= 12,00,000*$\frac{1.5}{12}$ = 1,50,000

- Calculation of Cash Balance

Current Assets= Stock+ Debtors+ Cash(b/f)

3,50,000= 1,00,000+1,50,000+1,00,000.

- Calculation of Fixed Assets

Fixed Asset Turnover Ratio= Cost of goods sold/ FA

$\frac{1.2}{1} = \frac{9,00,000}{FA}$, 1.2 FA= 9,00,000 , FA=9,00,000/1.2= 7,50,000

- Calculation of Net worth(Shareholders fund)

Fixed asset to net worth= $\frac{\text{Fixed asset}}{\text{Net worth}}$

$\frac{1.25}{1} = \frac{7,50,000}{\text{Net worth}}$, 1.25 Net worth= 7,50,000 , Net worth=7,50,000/1.25=6,00,000

- Calculation of Capital and Reserves

Net worth= Share capital+ Reserves and surplus

1.20 = 1+ 0.20

1.20= 6,00,000

Share capital= 6,00,000*1/1.20= 5,00,000

R/S= 6,00,000= 0.20/1.20= 1,00,000

- Calculation of long term debt

Capital gearing ratio= Fixed interest and dividend bearing securities

Equity share holders funds

0.50= Long term debt ,LTD= 3,00,000

1 6,00,000

BALANCE SHEET

LIABILITIES	RS	ASSETS	RS
SHARE CAPITAL	5,00,000	FIXED ASSETS	7,50,000
RESERVES AND SURPLUS	1,00,000	CURRENT ASSETS	
LONG TERM DEBT	3,00,000	STOCK	1,00,000
CURRENT LIABILITY	2,00,000	DEBTORS	1,50,000
		CASH	1,00,000
TOTAL LIABILITIES	11,00,000	TOTAL ASSETS	11,00,000

31. Prepare the balance sheet of XYZ company ltd with the following information

- Sales for the year : 20,00,000
- Gross profit : 25%
- Current ratio : 1.5 times
- Quick ratio : 1.25
- Stock turnover ratio : 1.5 times
- Debt collection period : 1.5 months
- Turnover of fixed assets : 1.5 (cost of goods sold/ fixed assets)
- Ratio of reserves and capital : 0.32
- Fixed assets to net worth : 0.83

31.SOLUTION

- **Calculation of Gross Profit**

GP = 25% of Sales, Sales is 20,00,000

GP= 20,00,000*25%= 5,00,000

- **Calculation of Cost of goods sold**

Sales-CGS= GP, therefore CGS= Sales-GP

= 20,00,000-5,00,000= 15,00,000

- **Calculation of Stock**

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

$\frac{15}{1}=\frac{15,00,000}{\text{Avg Stock}}$,15 Avg stock=15,00,000, Avg stock= $\frac{15,00,000}{1}$= 1,00,000

- Calculation of Current Assets, Current Liabilities and Liquid Assets

CA:CL= 1.5: 1

CA- Stock= Liquid Asset

1.5-0.25= 1.25, and 0.25= 1,00,000

CA=1,00,000*1.5/0.25= 6,00,000

CL=1,00,000*1/0.25= 4,00,000

LA=1,00,000*1.25/0.25= 5,00,000

- Calculation of Debtors

Debtors= Credit sales*$\frac{DCP}{12}$

= 20,00,000*$\frac{1.5}{12}$ = 2,50,000

- Calculation of Cash balance

Current Assets= Stock+ Debtors+ Cash balance(b/f)

6,00,000= 1,00,000+2,50,000+2,50,000(b/f)

- Calculation of Fixed Assets

FATR= $\frac{CGS}{FA}$, $\frac{1.5}{1}$= $\frac{15,00,000}{FA}$, 1.5FA= 15,00,000 ,FA=15,00,000/1.5

= 10,00,000

- Calculation of Net worth (Shareholders fund)

Fixed asset to net worth= $\frac{\text{Fixed Asset}}{\text{Net worth}}$

$\frac{0.83}{1}$= $\frac{10,00,000}{\text{Net worth}}$,0.83 net worth= 10,00,000 ,

NW= 10,00,000/0.83= 12,04,819

- Calculation of Capital and Reserves

Net worth= Share Capital+ Reserves and Surplus

1.32= 1+ 0.32, and 1.32=12,04,819

Share capital= 12,04,819* 1/1.32= 9,12,742

Reserves and surplus= 12,04,819*0.32/1.32= 2,92,077

BALANCE SHEET

LIABILITIES	RS	ASSETS	RS
SHARE CAPITAL	9,12,742	FIXED ASSETS	10,00,000
RESERVES AND SURPLUS	2,92,077	CURRENT ASSETS	
CURRENT LIABILITY	4,00,000	STOCK	1,00,000
		DEBTORS	2,50,000
		CASH Miscellaneous	2,50,000 4,819
TOTAL LIABILITIES	16,04,819	TOTAL ASSETS	16,04,819

32. Using the following data, Complete the balance sheet below

- Gross profit (20 % on sales) :Rs 1,20,000
- Shareholders equity: Rs 1,00,000
- Credit sales to total Sales: 80%
- Total assets turnover (sales/ total assets): 3 times
- Inventory turnover (to cost of sales): 8 times
- Average collection period (360 days in a year): 18 days
- Current ratio : 1.6
- Long term to equity : 40%

LIABILITIES	AMOUNT	ASSETS	AMOUNT
Shareholders equity	-	Fixed assets	-
Long term debt	-	Sundry debtors	-
Sundry creditors	-	Inventory	-
Total	-	Total	-

32.SOLUTION

- **Calculation of Sales and CGS**

Sales-CGS=GP, and GP is 20% of Sales

100-80= 20, 20%= 1,20,000

Sales= 1,20,000*100/20=6,00,000

CGS= 1,20,000*80/20=4,80,000

- **Calculation of Total Assets**

Total Asset turnover ratio= Sales

Total Asset

3= 6,00,000 ,3 Total Asset= 6,00,000 , Total asset= 6,00,000/3= 2,00,000

1 Total Asset

- Calculation of closing Inventory/ stock(inventory turnover to cost of sales)

Closing stock turnover ratio= Cost of goods sold

Closing stock

8= 4,80,000 , 8closing stock=4,80,000 , Closing stock= 4,80,000/8= 60,000

1 Cl Stock

- Calculation of debtors

Average collection period= No of days in a year * debtors

Credit sales

18= 360 *debtors

1 4,80,000

360 debtors= 86,40,000

Debtors= 86,40,000/360= 24,000

- Calculation of current assets and current liabilities

CA:CL= 1.6:1

TOTAL ASSET= TOTAL LIABILITY= 2,00,000

TOTAL LIABILITY= SHARE HOLDERS FUND+ DEBT+ CL

2,00,000= 1,00,000+40,000+ 60,000(bal fig)

Therefore CL= 60,000= 1

Therefore CA= 60,000*1.6/1= 96,000

Current assets= Debtors+ Inventory+ Cash

96,000= 24,000+ 60,000+ 12,000(bal fig)

- Calculation of Fixed Assets

Total asset= FA+ CA

2,00,000= 1,04,000(bal fig)+ 96,000

BALANCE SHEET

LIABILITIES	AMOUNT	ASSETS	AMOUNT
SHAREHOLDERS EQUITY	1,00,000	FIXED ASSETS	1,04,000
LONG TERM DEBT	40,000	SUNDRY DEEBTORS	24,000
SUNDRY CREDITORS	60,000	INVENTORY	60,000
		CASH	12,000
TOTAL LIABILITIES	2,00,000	TOTAL ASSETS	2,00,000

33. From the following information pertaining to a concern, prepare its trading a/c profit & loss account for the year ended 31/3/2017 and a summarized balance sheet as on that date

- Current ratio : 2.5
- Quick ratio : 1.3
- Proprietary ratio (fixed assets/ proprietary funds): 0.6
- Gross profit ratio : 10%
- Debtors velocity : 40 days
- Sales : Rs 7,30,000
- Working capital : 1,20,000
- Bank overdraft : Rs 15,000
- Share capital : Rs 2,50,000
- Closing stock is 10 % more than opening stock
- Net profit 10% of proprietary funds

SOLUTION 2

33.solution

- Calculation of Gross Profit

GP is 10% of sales and sales is 7,30,000, Therefore GP= 7,30,000*10%= 73,000.

- Calculation of Current Assets and Current Liabilities

CA: CL= 2.5:1

CA-CL=Working capital

2.5-1= 1.5 and 1.5= 1,20,000

CA= 1,20,000*2.5/1.5= 2,00,000

CL= 1,20,000* 1/1.5= 80,000

- Calculation of Stock

Quick ratio= Quick Asset / Quick Liabilities or Quick ratio= CA- STOCK / CL- BOD

1.3= 2,00,000-STOCK , 1.3= 2,00,000- STOCK

1 80,000-15,000 1 65,000

84,500= 2,00,000-STOCK

2,00,000-84,500= STOCK, STOCK=1,15,500

- Calculation of Debtors

Debtors velocity= 40 days

DCP=Debtors/sales* 365

40=Debtors*365= Debtors= 80,000

7,30,000

- Propreitory Ratio(Fixed assets/propreitory funds)

Propreitory fund+Long term loan= Fixed assets+ Working Capital

Assume long term loan is Nil

- Let Proprietary fund be X, and fixed asset will be 0.6X

X= 0,6X+1,20,000

X-0.6X=1,20,000

0.4X=1,20,000, X=1,20,000/0.4= 3,00,000= Proprietary funds

FA= 3,00,000*0.6=1,80,000

- Net profits

Net profits=10% of proprietary funds, 3,00,000*10%= 30,000

- Opening and Closing stock

Closing stock as calculated 1,15,000

Closing stock is more than opening stock by 10%,, opening stock is less by 10%

1,15,500* 100 = 1,05,000

110

TRADING & P/L ACCOUNT			
To OPENING STOCK	1,05,000	BY SALES	7,30,000
TO PURCHASE(bal fig)	6,67,500	BY CLOSING STOCK	1,15,500
TO GROSS PROFIT	73,000		
	8,45,500		8,45,500
TO OPERATING EXPENSES(bal fig)	43,000	BY GROSS PROFIT	73,000
TO NET PROFIT	30,000		
	73,000		73,00
BALANCE SHEET			
SHARE CAPITAL	2,50,000	FIXED ASSETS	1,80,000
RESERVES AND SURPLUS	50,000	CURRENT ASSETS 2,00,000	
CURRENT LIABILITIES		STOCK	1,15,500
BANK OVERDRAFT	15,000	DEBTORS	80,000
OTHER LIABILITIES	65,000	CASH (bal fig)	4,500
	3,80,000		3,80,000

34. Given the following particulars;

Debtors velocity : 3 months

Creditors velocity : 2 months

Stock velocity: 8 times

Fixed assets turnover ratio : 8 times

Gross profit turnover ratio : 25%

Gross profit during the year amounted to Rs 80,000. There is no long term loan or overdraft. Reserves & surplus amounted to Rs 28,000. Liquid assets are Rs 97,333.33. Closing stock is Rs 2,000 more than the opening stock. Bills receivable & payable are Rs 5,000 & Rs 2,000 respectively

- Find out: Sales, Debtors, Cloing stock, S. Creditors, Fixed assets , Proprietary funds.
- Also make out the balance sheet with as many possible details

34.SOLUTION

- **Calculation of Sales**

GP ratio=25%, 25%=80,000

GP Ratio= GP* 100 25 =80,000 * 100 , SALES=80,000*100 = 3,20,000

Sales Sales 25

- **Calculation of Sundry Debtors**

Average debt collection period= 3 months

Debtors Turnover Ratio= 12/3= 4 times

DTR= Net credit sales

Average trade debtors

4= 3,20,000 ,4Avg debtors=3,20,000 , Debtors=3,20,000/4= 80,000

1 Avg debtors

- **Calculation of closing stock**

Stock turnover ratio= Cost of goods sold

Average stock

Sales-CGS= GP

CGS= Sales- GP, CGS= 3,20,000-80,000= 2,40,000

8 = 2,40,000 , 8avg stock= 2,40,000 , Avg stock= 2,40,000/8= 30,000

1 Avg Stock

Avg stock= Opening stock+closing stock

2

Let opening stock be X, and closing stock will be X+2,000

30,000= X+X+2,000 ,60,000= 2X+2,000 , 58,000= 2X ,X=58,000/2= 29,000

2

OPENING STOCK=X= 29,000, CLOSING STOCK= X+2,000= 31,000

- Calculation of Sundry Creditors

Creditors velocity= Total creditors * No of months

Credit Purchases

2= Total creditors *12 =2,42,000*2 = 40,333

2,42,000 12

Purchases= CGS+ CLOSING STOCK-OPENING STOCK

- Calculation of Fixed Asset

Fixed asset turnover ratio= Net sales

Fixed Assets

8= 3,20,000 , 8FA= 3,20,000 , FA= 3,20,000/8= 40,000

1 Fixed Assets

35. The following are the summarizes trading and profit and loss account, balance sheet of SV ltd for the year ended 31/03/1018

Trading and profit and loss account

Particulars	Amount	Particulars	Amount
To opening stock	1,20,000	By cash sales	1,20,000
To cash purchases	60,000	By credit sales	4,80,000
To credit purchases	3,20,000	By closing stock	80,000
To gross profit	1,80,000		
	6,80,000		6,80,000
To general expenses	40,000	By gross profit	1,80,000
To depreciation	20,000		
To income tax	30,000		
To net profit	90,000		
	1,80,000		1,80,000

Balance sheet as on 31/3/18

Liabilities	Amount	Assets	Amount
Share capital	3,00,000	Fixed assets	1,70,000
General Reserve	60,000	Investments	1,00,000
Profit and loss account	1,10,000	Stock	80,000
Creditors	80,000	Debtors	1,60,000
Bills payable	20,000	Cash	60,000
	5,70,000		5,70,000

Compute

1. Stock turnover ratio 2. Debtors turnover ratio 3. Creditors turnover ratio
4. Debt collection period 5. Debt payment period 6. Current ratio
7. Acid test ratio 8. Gross profit ratio 9. Net profit ratio.
10. Operating cost ratio

35. Solution

A.Calculation of stock turnover ratio

$$STR = \frac{CGS}{\text{Avg Stock}}$$

$$\text{Avg stock} = \frac{\text{OP stock} + \text{clos stock}}{2}$$

$$= \frac{120000+80000}{2} = 100000$$

CGS= sales – GP

=600000 -180000= 420000

$$STR = \frac{420000}{100000} = 4.2 \text{ times}$$

B.Calculation of debtor's turnover ratio

$$DTR = \frac{\text{Net credit sales}}{\text{Avg debtors}}$$

$$DTR = \frac{480000}{160000} = 3 \text{ times}$$

C.Calculation of creditors turnover ratio

$$CTR = \frac{\text{Net credit purchase}}{\text{Avg creditors}}$$

$$= \frac{320000}{(80000+20000)} = 3.2 \text{times}$$

D.Calculation of **debtor** collection period

$$DCP = \frac{\text{Debtors}}{\text{Creditors sale}} \times 365 \text{ days}$$

$$= \frac{160000}{480000} \times 365 = 121.67 \text{ Days}$$

E. Debt payment period

$$DPP = \frac{\text{Avg purchase}}{\text{Creditors purchase}} \times 365 \text{DAYS}$$

$$= \frac{100000}{320000} \times 365 = 114.06 \text{ days}$$

F. Calculation of current ratio

$$\text{Current ratio} = \frac{CA}{CL}$$

$$= \frac{160000+80000+60000}{80000+20000}$$

$$= \frac{300000}{100000} = 3 \text{ times}$$

G. Calculation of acid test ratio/liquid assets

$$LR = \frac{LA}{LL}$$

$$= \frac{80000}{100000} = 0.8 \text{ times}$$

H. Calculation of NP ratio

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

$$= \frac{90000}{60000} \times 100 = 15\ \%$$

I. Calculation of operating cost ratio

$$OCR = \frac{CGS + \text{operating exp}}{\text{Net sales}} \times 100$$

Op exp= administrative exp+ selling & distribution + financial expenses

= 40000+20000+30000 = 90000

$$OCR = \frac{420000+90000}{600000} \times 100$$

$$= \frac{510000}{600000} \times 100 = 85\%$$

J.Calculation of GP ratio

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

= 30%

36. The following information is given

- Current ratio -2.5
- Liquid ratio – 1.5
- Stock turnover ratio (cost of sales/ closing stock)= 6 times
- Gross profit ratio 20%
- Fixed assets turnover ratio – 2 times
- Average debt collection period – 2 months
- Fixed assets : Shareholders net worth = 1:1
- Net working capital Rs 3,00,000
- Reserve : Share capital = 0.5:1

Draw up a balance sheet from the above information.

36 Solution

Calculation of CA & CL

Working capital = CA– CL

1.5= 2:5:1 , 1.5= 300000

$$CA = \frac{300000 \times 2:5}{1.5} = 500000$$

$$CL = \frac{300000 \times 1}{1.5} = 200000$$

Calculation of stock

CA– Stock = QA

$$QR = \frac{QA}{CL}$$

$$\frac{1.5}{1} = \frac{QA}{200000}, \quad QR = 300000$$

Calculation of fixed assets

FA has to be calculated with the help of sales & sales to be calculated with STR ratio

$$STR = \frac{CGS}{Avg\ stock}$$

$$\frac{6}{1} = \frac{CGS}{200000}, \quad CGS = 120000$$

Sales – CGS = GP , 100-80=20 & 80= 1200000

$$Sales = \frac{1200000}{80} \times 100 = 150000$$

$$GP = \frac{1200000 \times 20}{80} = 300000$$

$$\text{Fixed asset turnover ratio} = \frac{\text{net sales}}{FA}$$

$$\frac{2}{1} = \frac{1500000}{FA}$$

$$2FA = 1500000$$

$$FA = \frac{1500000}{2} = 750000$$

Calculation of debto rs

$$DCP = \frac{\text{No of months in a year}}{DTR}$$

2 months = $\frac{12}{DTR}$, DTR = 12/2 = 6 times

Debtors will be 1/6 times of total credit sales

$$= \frac{1500000 \times 1}{6} = 250000$$

Calculation of proprietary funds or Net worth ratio
Fixed Asset to net worth is 1:1
Fixed asset = proprietary funds
750000= 750000

Calculation of Reserves
Reserves to share capital is 0:5:1
(Net worth = capital+ reserves) (1.5= 0.5+1)

$$\text{Capital} = \frac{75\ 0000 \times 1}{1.5} = 500000$$

Balance Sheet

Liabilities		Assets	
Capital	500000	Fixed asset	750000
Reserves	250000	Current assets :-	
Current liabilities	200000	Debtors	250000
Long term		Stock	200000
liabilities (bal fig)	300000	Cash (bal fig)	50000
	1250,000		12,50,000

37. Following is the balance sheet of Nishanth Ltd as on 31/03/19

Liabilities	Amount	Assets	Amount
Equity share capital	5,00,000	Land and building	9,00,000
8% preference share capital	4,00,000	Plant and machinery	8,00,000
Reserves and surplus	4,00,000	Closing stock	3,00,000
9% Debentures	6,00,000	Debtors	2,00,000
Current liabilities	4,00,000	Cash and bank	90,000
Prepaid expenses	10,000		
	23,00,000		23,00,000

- Additional information

Sales during the year Rs 8,00,000, Cost of sales Rs 6,00,000, Office and administrative expenses Rs 1,12,000, Commission and discount earned Rs 12,000, Loss on sale of machinery Rs 34,000, Profit on sale of building Rs 54,000.

You are required to calculate-

Current ratio. Liquid ratio, Stock turnover ratio, Gross profit ratio, Operating cost ratio, Net profit ratio ,Debt Equity ratio, Solvency ratio, Proprietary ratio, Fixed assets to net worth ratio.

37 solution: current ratio = $\frac{CA}{CL}$

$= \frac{300000+200000+90000+10000}{400000}$

$= \frac{600000}{400000} = 1.5:1$

LR= $\frac{LA}{LL}$

$= \frac{200000+90000}{400000} = \frac{290000}{400000} = 0.73:1$

Stock turnover ratio = $\frac{CGS}{\text{Avg stock}}$ Or $\frac{CGS}{\text{Closing stock}}$

$\frac{600000}{300000} = 2\text{times}$

Calculation o f GP ratio

GP ratio = $\frac{GP}{Net\ sales}$ x 100 , GP = Sales - CGS

$= \frac{200000}{800000} = 25\%$

Operating cost ratio = $\frac{Operating\ cost}{Net\ sales}$ x 100

Operating cost = CGS +Office & Administration exp

= 600000+112000 = 712000

$= \frac{712000}{800000} \times 100 = 89\%$

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

Net profit = GP + commission & discount earned + profit on sales of building – office exp – loss on sale of building

= 200000+54000+12000 -112000 -34000 = 120000

$= \frac{120000}{800000} \times 100 = 15\%$

Debt equity ratio = outsiders fund / Owner fund

= 600000+400000 / 500000+400000+400000

= 1000000 / 1300000 = 0.77: 1

Proprietary Ratio = Shareholders fund x 100 / Total assets

=1300000 x100 / 2300000 = 56.25%

Fixed asset to Net worth ratio

FA / Shareholders fund X 100

= 900000+800000 / 1300000 x 100

= 1700000 / 1300000 x 100 = 130.76%

Solvency ratio

a) Current asset to proprietary fund ratio

$$= \frac{\text{current assets}}{\text{Shareholders fund}} \times 100$$

$$= \frac{600000}{1300000} \times 100 = 46.15\%$$

b) Capital of earing ratio

$$= \frac{\text{fixed interest \& dividend bearing securities}}{\text{Equity shareholders fund}}$$

$$= \frac{1000000}{900000} = 1.11:1$$