SOLVED QUESTION PAPERS OF RATIO ANALYSIS SECTION – C 15 MARKS

Q1. Question Paper 2009

1. Following is the Balance Sheet of XYZ Ltd. You are required to calculate :
   - i) Current Ratio
   - ii) Liquid / Quick Ratio
   - iii) Net working Capital
   - iv) Fixed Assets to Net-Worth Ratio
   - v) Debit – Equity Ratio
   - vi) Return on capital employed
   - vii) Return on Equity
   - viii) Proprietary Ratio

Balance Sheet

Capital and Liabilities	Rs.	Assets	Rs.
Equity Share Capital	3,00,000	Land and Building	2,00,000
General Reserve	1,75,000	Plant and Machinery	1,00,000
Dividend Equalization	25,000	Furniture	1,37,500
Reserve		Investment (Long Term)	1,25,000
Debentures	80,000	Stock	1,50,000
Long Term Loans	20,000	Bills Receivables	67,500
Creditors	1,00,000	Cash in Hand	60,000
Bills Payable	50,000	Preliminary Expenses	40,000
Provision for Tax	25,000		
P&L A/c			
Previous Year	5,000		
Current Year	1,00,000		
	8,80,000		8,80,000

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{2,77,500}{1,75,000} = 1.59 : 1$$

Current Assets		Current Liabilities	
Stock	1,50,000	Creditors	1,00,000
Bills Receivables	67,500	Bills Payable	50,000
Cash in Hand	60,000	Provision for Tax	25,000
	2,77,500		1,75,000

2. $$\text{Liquid/Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}} = \frac{1,27,500}{1,75,000} = 0.73 : 1$$

Liquid Assets = Current Assets - Stock
= 2,77,500 + 1,50,000 =1,27,500

3. Net Working Capital = Current Assets - Current Liabilities
= 2,77,500 - 1,75,000 = 1,02,500

4. $$\text{Fixed Assets to Net worth Ratio} = \frac{\text{Fixed Assets}}{\text{Net worth}} = \frac{5,62,500}{5,65,000} = 0.99 : 1$$

Fixed Assets	
Land & Building	2,00,000
Plant & Machinery	1,00,000
Furniture	1,37,500
Investments (L. T)	1,25,000
	5,62,500

Net worth / Shareholders Fund		
Equity Share Capital		3,00,000
General Reserve		1,75,000
Dividend Equilisation Reserve		25,000
Profit & Loss Account		
P.Y	5,000	
C.Y	1,00,000	1,05,000
		6,05,000
Less: Preliminary Expenses		40,000
		5,65,000

5. $$\text{Debt-Equity Ratio} = \frac{\text{Long Term Debts}}{\text{Shareholders Fund}} = \frac{1,00,000}{5,65,000} = 0.18 : 1$$

Long Term Debts = Debentures + Long term Loans

= 80,000 + 20,000 = 1,00,000

6. Return on Capital Employed = $\frac{\text{Net Profit Before Interest \& Tax}}{\text{Capital Employed}} \times 100$

$= \frac{1,25,000}{6,65,000} \times 100 = 18.8\ \%$

Capital Employed		Net Profit Before Interest & Tax	
Shareholders Fund	5,65,000	Profit (C.Y)	1,00,000
Long Term Debts	1,00,000	Add: Tax	25,000
	6,65,000		1,25,000

7. Return on Equity = $\frac{\text{Profit After Tax}}{\text{Shareholders Fund}} = \frac{1,00,000}{5,65,000} = 0.17 : 1$

8. Proprietary Ratio = $\frac{\text{Shareholders Fund}}{\text{Total Tangible Assets}} = \frac{5,65,000}{8,40,000} = 0.67 : 1$

Total Tangible Assets = Fixed Assets + Current Assets

= 5,62,500 + 2,77,500 = 8,40,000

Q2. Question Paper 2009

2. Following is the Trading, Profit and Loss A/c of ABC Ltd.

Particulars	Rs.	Particulars	Rs.
To Opening Stock	76,250	By Sales	5,00,000
To Purchases	3,15,250	By Closing Stock	98,500
To Carriage	2,000		
To Wages	5,000		
To Gross Profit b/d	2,00,000		
	5,98,500		5,98,500
To Administrative Exp.	1,01,000	By Gross Profit c/d	2,00,000
To Financial Exp.	7,000	By Interest on Securities	1,500
To Selling and Distribution Exp.	12,000	By Dividend on Shares	3,750
To Loss on Sale of Fixed Assets	350	By Profit on sale of Shares	750
To Provision for Legal Suit	1,650		
To Net Profit	84,000		
	2,06,000		2,06,000

You are required to calculate :

i) Gross Profit Ratio
ii) Net Profit Ratio
iii) Operating Profit Ratio
iv) Operating Cost Ratio
v) Administrative Expenses Ratio
vi) Financial Expenses Ratio
vii) Selling and Distribution Expenses Ratio
viii) Non-Operating Expenses Ratio
ix) Stock Turnover Ratio
x) Non-Operating Incomes Ratio

Sol: Calculation of

1. Gross Profit Ratio = $\frac{\text{Gross Profit}}{\text{Net Sales}} \times 100 = \frac{2,00,000}{5,00,000} \times 100 = 40\%$

2. Net Profit Ratio = $\frac{\text{Net Profit}}{\text{Net Sales}} \times 100 = \frac{84,000}{5,00,000} \times 100 = 16.80\%$

3. Operating Profit Ratio = $\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100 = \frac{80,000}{5,00,000} \times 100 = 16\%$

Operating Profit = Gross Profit – Operating Expenses (Admi. Exp + Fin. Exp. +Sell & Dist Exp)
= 2,00,000 – 1,20,000 = 80,000

4. Operating Cost Profit = $\frac{\text{Operating Cost (Cost of Goods Sold + Operating Expenses)}}{\text{Net Sales}} \times 100$

$= \frac{3,00,000 + 1,20,000}{5,00,000} \times 100 \quad = 84\%$

5. Administrative Expenses Ratio = $\frac{\text{Administrative Expenses}}{\text{Net Sales}} \times 100 \quad = \frac{1,01,000}{5,00,000} \times 100 \quad = 20.2\%$

6. Financial Expenses Ratio = $\frac{\text{Financial Expenses}}{\text{Net Sales}} \times 100 \quad = \frac{7,000}{5,00,000} \times 100 \quad = 1.4\%$

7. Selling & Distribution Expenses Ratio = $\frac{\text{Selling \& Distribution Expenses}}{\text{Net Sales}} \times 100$

$= \frac{1,20,000}{5,00,000} \times 100 \quad = 2.4\%$

8. Non-Operating Expenses Ratio = $\frac{\text{Non-Operating Expenses}}{\text{Net Sales}} \times 100$

$= \frac{2,000}{5,00,000} \times 100 \quad = 0.4\%$

9. Stock Turnover Ratio = $\frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{3,00,000}{87,375} \quad = 3.43$ Times

Average Stock = $\frac{\text{Opening Stock + Closing Stock}}{2} = \frac{76,250 + 98,500}{2} \quad = 87,375$

10. Non-Operating Incomes Ratio = $\frac{\text{Non-Operating Incomes}}{\text{Net Sales}} \times 100 \quad = \frac{6,000}{5,00,000} \times 100$

= 1.2 Times

Non-Operating Incomes	
Interest on Securities	1,500
Dividend on Shares	3,750
Profit on Sale of Shares	750
	6,000

Q3. Question Paper 2010

1. Prepare Balance Sheet with as many as possible :

Stock turnover ratio	8 times
Debtors velocity	3 months
Creditors velocity	2 months
Fixed assets to turnover	8 times (sales)
Gross profit	25%
Reserves	Rs. 56,000
Gross profit	Rs. 1,60,000
Liquid assets	Rs. 1,94,666

Closing stock is Rs. 4,000 more than the opening stock. Bill receivable Rs. 5,000 and bills payable Rs. 4,000.

Sol: Calculation of

1.

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

$$25 = \frac{1{,}60{,}000}{\text{Sales}} \times 100$$

$$\backslash\ \text{Sales} = \frac{1{,}60{,}000}{25} \times 100 \quad = 6{,}40{,}000$$

2.

Cost of Goods Sold = Sales – Gross Profit 25% on Sales
= 6,40,000 – 1,60,000
= 4,80,000

3.

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

$$8 \text{ Times} = \frac{4{,}80{,}000}{\text{Average Stock}}$$

$$\text{Average Stock} = \frac{4{,}80{,}000}{8} \quad = 60{,}000$$

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

60,000 x 2 = Opening Stock + (Opening Stock + 4,000)
1,20,000 = 2 Opening Stock + 4,000

2 Opening Stock = 1,20,000 – 4,000

$$\text{Opening Stock} = \frac{1{,}16{,}000}{2} \quad = 58{,}000$$

Closing Stock = Opening Stock + 4,000
\ Closing Stock = 58,000 + 4,000 = 62,000

4.

$$\text{Debtors Collection Period Ratio} = \frac{\text{No. of Months in a year}}{\text{Debtors Turnover Ratio}}$$

$$3 \text{ Months} = \frac{12}{\text{Debtors Turnover Ratio}}$$

$$\text{Debtors Turnover Ratio} = \frac{12}{3} \quad = 4 \text{ Times}$$

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

$$4 \text{ Times} = \frac{6{,}40{,}000}{\text{Average Accounts Receivable}}$$

$$\text{Average Accounts Receivable} = \frac{6{,}40{,}000}{4} \quad = 1{,}60{,}000$$

Average Accounts Receivable = Debtors + Bills Receivables
1,60,000 = Debtors + 5,000

\ Debtors = 1,60,000 -5,000
= 1,55,000

5. **Calculation of Purchase =**

	Cost of Goods Sold	**4,80,000**
Add:	**Closing Stock**	**62,000**
		5,42,000
Less:	**Opening Stock**	**58,000**
	Purchases	**4,84,000**

6. **Creditors Payment Period Ratio =** $\dfrac{\textbf{No. of Months in a year}}{\textbf{Creditors Turnover Ratio}}$

2 Months = $\dfrac{\textbf{12}}{\textbf{Creditors Turnover Ratio}}$

Creditors Turnover Ratio = $\dfrac{12}{2}$ **= 6 Times**

Creditors Turnover Ratio = $\dfrac{\textbf{Credit Purchases}}{\textbf{Average Accounts Payable}}$

6 Times = $\dfrac{\textbf{4,84,000}}{\textbf{Average Accounts Payable}}$

Average Accounts Payable = $\dfrac{4{,}84{,}000}{6}$ **= 80,666**

Average Accounts Payable = Creditors + Bills Payable
80,666= Creditors + 4,000

\ Creditors= 80,666 - 4,000
= 76,666

7.
Fixed Assets Turnover Ratio = $\dfrac{\textbf{Sales}}{\textbf{Fixed Assets}}$

8 Times on Sales = $\dfrac{\textbf{6,40,000}}{\textbf{Fixed Assets}}$

Fixed Assets = $\dfrac{6{,}40{,}000}{8}$ **= 80,000**

8. **Calculation of Cash Balance**
Liquid Assets = Debtors + Bills Receivable + Cash
194,666 = 1,55,000 + 5,000 +cash
\ Cash = 1,94,666 – 1,60,000
= 34,666

9. **Share Capital = Total Assets – Liabilities –Reserves**
= 3,36,666 – 80,000 – 56,000
= 2,00,000

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Share Capital	2,00,000	Fixed Assets	80,000
Reserves	56,000	Closing Stock	62,000
Creditors	76,666	Debtors	1,55,000
Bills Payable	4,000	Bills Receivable	5,000
		Cash	34,666
	3,36,666		3,36,666

Points to Remember only : **Debtors Velocity given in Months is Debtors Collection Period Ratio**
Creditors Velocity given in Months is Creditors Payment Period Ratio

Debtors Velocity given in Times is Debtors Turnover Ratio
Creditors Velocity given in Times is Creditors Turnover Ratio

Fixed Assets turnover Ratio = 8 Times (on Sales) = $\dfrac{\textbf{Sales}}{\textbf{Fixed Assets}}$

Fixed Assets turnover Ratio = 8 Times (on Cost) = $\dfrac{\textbf{Cost of Goods Sold}}{\textbf{Fixed Assets}}$

Q4. Question Paper 2010

2. From the following balance sheet, trading and profit and loss A/c for the year ended 31-3-2007.

Balance Sheet

	Amount		Amount
Share capital	2,00,000	Fixed assets	2,50,000
10% debenture	1,00,000	Stock	50,000
Creditors	50,000	Debtors	80,000
Bills payable	30,000	Bills receivable	20,000
Profit and loss A/c	80,000	Cash at Bank	60,000
	4,60,000		**4,60,000**

Trading and Profit and Loss A/c

		Rs.		Rs.
To Opening stock		40,000	By Sales	5,00,000
To Purchases			By Closing stock	50,000
Cash	60,000			
Credit	2,20,000	2,80,000		
To Gross profit		2,30,000		
		5,50,000		**5,50,000**
To Office exp.		80,000	By Gross profit	2,30,000
To Selling exp.		60,000		
To Int. on deb.		10,000		
To Net profit		80,000		
		2,30,000		**2,30,000**

Calculate :

1) Current ratio
2) Liquid ratio
3) Gross profit ratio
4) Net profit ratio.
5) Return on capital employed
6) Stock turnover ratio
7) Average debt collection period
8) Fixed assets to turnover
9) Return on shareholders equity
10) Operating cost ratio.

3 From the following balance sheets of XYZ as on 1-1-2008 and 31-12-2008. You are required to prepare

1) Funds from business operation
2) Statement showing changes in working capital
3) Funds flow statement.

Sol: Calculation of

1. $$\textbf{Current Ratio} = \frac{\textbf{Current Assets}}{\textbf{Current Liabilities}} = \frac{2,10,000}{80,000} = 2.625 : 1$$

Current Assets		**Current Liabilities**	
Stock	**50,000**	**Creditors**	**50,000**
Debtors	**80,000**	**Bills Payable**	**30,000**
Bills Receivables	**20,000**		**80,000**
Cash at Bank	**60,000**		
	2,10,000		

2. $$\textbf{Liquid Ratio} = \frac{\textbf{Liquid Assets}}{\textbf{Liquid Liabilities}} = \frac{1,60,000}{80,000} = 2 : 1$$

$$\text{Liquid Assets} = \text{Current Assets} - \text{Stock}$$
$$= 2{,}10{,}000 - 50{,}000 \qquad = 1{,}60{,}000$$

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

$$= \frac{80{,}000}{5{,}00{,}000} \times 100 \qquad = 16\%$$

4. $$\text{Return on Capital Employed} = \frac{\text{Net Profit}}{\text{Capital Employed}} \times 100 \qquad = \frac{80{,}000}{3{,}80{,}000} \times 100 \qquad = 21.05\%$$

Capital Employed	
Share Capital	2,00,000
Profit & Loss A/c	80,000
Debentures	1,00,000
	3,80,000

OR

	Fixed Assets	2,50,000
Add:	Working Capital (CA – CL) (2,10,000 – 80,000)	1,30,000
		3,80,000

5. $$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{2{,}70{,}000}{45{,}000} = 6 \text{ Times}$$

Cost of Goods Sold		
	Opening Stock	40,000
	Purchase	2,80,000
		3,20,000
Less:	Closing Stock	50,000
		2,70,000

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

$$= \frac{40{,}000 + 50{,}000}{2} = \frac{90{,}000}{2} \qquad 45{,}000$$

7. $$\text{Average Debt Collection Period} = \frac{\text{No. of Days in a Year}}{\text{Debtors Turnover Ratio}} = \frac{365}{5} = 73 \text{ Days}$$

$$\text{Debtors Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}} = \frac{5{,}00{,}000}{1{,}00{,}000} = 5 \text{ Times}$$

$$\text{Average Accounts Receivables} = \text{Debtors + Bills Receivables}$$
$$= 80{,}000 + 20{,}000$$
$$= 1{,}00{,}000$$

8. $$\text{Fixed Assets Turnover Ratio} = \frac{\text{Sales}}{\text{Fixed Assets}} = \frac{5{,}00{,}000}{2{,}50{,}000} = 2 \text{ Times}$$

9. $$\text{Return on Shareholders Equity} = \frac{\text{Profit}}{\text{Shareholders Fund}} \times 100 \qquad = \frac{80{,}000}{2{,}80{,}00} \times 100 \qquad = 28.57\%$$

$$\text{Shareholders Fund} = \text{Share Capital + Profit \& Loss Account}$$
$$= 2{,}00{,}000 - 80{,}000 = 2{,}80{,}000$$

10. $$\text{Operating Cost Ratio} = \frac{\text{Cost of Goods Sold + Operating Expenses}}{\text{Sales}} \times 100$$

$$= \frac{2{,}70{,}000 + 1{,}40{,}000}{5{,}00{,}000} \times 100 \qquad = 82\%$$

Q5. Question Paper 2011

18. Prepare balance sheet from the following information of Aravind Co. Ltd. as on 31.12.2009 :

Gross profit ratio – 20% on sales

Debt collection period – 2 months

Shareholders fund – Rs. 15,00,000

Reserves – 50% of share capital

Current ratio – 2.5

Fixed assets turnover – 2 times.

Net working capital – Rs. 6,00,000

Quick ratio – 1.5

Stock turnover – 6 times (on cost of sales)

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{2.5}{1}$$

Working Capital = Current Assets - Current Liabilities
= 2.5 - 1
= 1.5

For Working Capital 1.5 = 6,00,000
2.5 = ?

$$= \frac{6,00,000 \times 2.5}{1.5}$$

Current Assets = 10,00,000

$$\text{Current Liabilities} = \frac{\text{Current Assets}}{\text{Current Ratio}} = \frac{10,00,000}{2.5}$$

\ Current Liabilities = 4,00,000

2. $$\text{Liquid/Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick liabilities}}$$

$$1.5 = \frac{\text{Quick Assets}}{4,00,000}$$

\ Quick Assets = 4,00,000 x 1.5
= 6,00,000

3. Calculation of Stock

Closing Stock = Current Assets - Quick Assets
= 10,00,000 – 6,00,000
= 4,00,000

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

$$6 \text{ times} = \frac{\text{Cost of Goods Sold}}{4,00,000}$$

Cost of Goods Sold = 4,00,000 x 6
= 24,00,000

4. Calculation of Sales

Sales = Cost of Goods Sold + Gross Profit 20% on Sales
100 = 80 + 20

For Cost 80 = 24,00,000 $= \frac{24,00,000 \times 20}{80}$
Gross Profit 20 = ?

Gross Profit = 6,00,000

\ Sales = 24,00,000 + 6,00,000
= 30,00,000

5. $$\text{Debtors} = \frac{\text{Sales x Debtors Collection Period}}{\text{No. of Months in a Year}}$$

$$= \frac{30,00,000 \times 2}{12}$$

$$= 5,00,000$$

6. Calculation of Bank Balance =

Current Assets		10,00,000
Less: Closing Stock	4,00,000	
Debtors	5,00,000	9,00,000
Cash at Bank		1,00,000

7. $$\text{Fixed Assets Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Fixed Assets}}$$

$$\text{2 Times} = \frac{24,00,000}{\text{Fixed Assets}}$$

$$\text{Fixed Assets} = \frac{24,00,000}{2}$$
$$= 12,00,000$$

8. Calculation of Reserve

$$\text{50\% of Share Capital} = \frac{50}{100} \times 15,00,000 = 7,50,000$$

Aravind Co Ltd
Balance Sheet as on 31-12-2009

Liabilities	Rs.	Assets	Rs.
Share Capital	7,50,000	Fixed Assets	12,00,000
Reserve & Surplus	7,50,000	Investments	--
Secured Loans		Current Assets :-	
Long Term Debts	3,00,000	Closing Stock	4,00,000
Current Liabilities	4,00,000	Debtors	5,00,000
		Cash At Bank	1,00,000
	22,00,000		22,00,000

Q6. Question Paper 2011 Refer Question Paper 2009 Q.No: 01 (Amount Double)

19. The following is the balance sheet of Santosh Ltd. you are required to calculate :

(a) Current ratio
(b) Liquid ratio
(c) Net working capital
(d) Fixed assets to net worth
(e) Debt equity ratio
(f) Return on capital employed
(g) Return on equity
(h) Proprietary ratio

Balance Sheet

Capital and Liabilities	Rs.	Assets	Rs.
Equity share capital	6,00,000	Buildings	4,00,000
General reserve	3,50,000	Machinery	2,00,000
Dividend equalisation reserve	50,000	Furniture	2,75,000
Debentures	1,60,000	Investments (long term)	2,50,000
Long term loans	40,000	Stock	3,00,000
Creditors	2,00,000	Bills receivable	1,35,000
Bills payable	1,00,000	Bank	1,20,000
Provision for tax	50,000	Preliminary expenses	80,000
Profit and loss a/c	2,10,000		
	17,60,000		17,60,000

Q7. Question Paper 2012

To office exp.	20,000	by gross profit	50,000
To selling exp.	10,000		
To non-operating exp.	5,000		
To net profit	15,000		
	50,000		50,000

Calculate the following :
1. Current ratio
2. Quick ratio
3. Gross profit ratio
4. Net profit ratio
5. Operating profit ratio
6. Operating cost ratio
7. Stock turnover ratio.

Following are the financial statements of ADARSH company:

Balance sheet as on 31-3-2010

	₹		₹
Share capital	2,00,000	Building	70,000
Profit & loss A/c	35,000	plant& machinery	50,000
Current Liabilities	60,000	Motor Van	80,000
		Furniture	10,000
		Stock	35,000
		Debtors	20,000
		Cash	10,000
		Bank	20,000
	2,95,000		2,95,000

Trading profit and loss A/c for the year ending 31-3-2010

	₹		₹
To opening Stock	20,000	by sales	1,50,000
To Purchases	1,05,000	by closing stock	35,000
To Wages	4,000		
To Direct exp.	6,000		
To gross profit	50,000		
	1,85,000		1,85,000

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{85,000}{60,000} = 1.42 : 1$$

Current Assets	
Stock	35,000
Debtors	20,000
Cash	10,000
Bank	20,000
	85,000

2. $$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{50,000}{60,000} = 0.83 : 1$$

Quick Assets = Current Assets - Stock
= 85,000 - 35,000
= 50,000

3. $$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100 = \frac{50,000}{1,50,000}\ 100 = 33.33\%$$

4. $$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \times 100 = \frac{15,000}{1,50,000} \times 100 = 10\%$$

5. $$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Sales}} \times 100 = \frac{20,000}{1,50,000} \times 100 = 13.33\%$$

Operating Profit = Gross Profit – Operating Expenses
= 50,000 – 30,000
= 20,000

6. $$\text{Operating Cost Ratio} = \frac{\text{Cost of Goods Sold + Operating Expenses}}{\text{Sales}} \times 100$$

$$= \frac{1,00,000 + 30,000}{1,50,000} \times 100 = 86.67\%$$

Cost of Goods Sold =	Opening Stock	20,000
Add :	Purchases	1,05,000
	Wages	4,000
	Direct Expenses	6,000
		1,35,000
Less :	Closing Stock	35,000
		1,00,000

7. $$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} \quad \frac{1,00,000}{27,500} = 3.636 \text{ or } 4 \text{ Times}$$

$$\text{Average Stock} = \frac{\text{Opening Stock + Closing Stock}}{2} = \frac{20,000 + 35,000}{2} = 27,500$$

Q8. Question Paper 2012

Prepare Balance sheet of Avinash Co-Ltd. as on 31-12-2010 from the following information :

Gross profit ratio-20%

Debtors velocity-6 times

Share capital-Rs.5,00,000

Reserves and surplus 50% of Share capital

Current ratio – 2.5:1

Fixed assets turnover – 2 times

Net working capital –Rs.3,00,000

Quick Ratio 1.5:1

Stock turnover ratio-6times(cags)

There were considerable long term loans.

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{2.5}{2}$$

$$\text{Working Capital} = \text{Current Assets - Current Liabilities}$$
$$= 2.5 - 1$$
$$= 1.5$$

For Working Capital 1.5 = 3,00,000

Current Assets 2.5 = ?

$$\text{Current Assets} = \frac{3,00,000 \times 2.5}{1.5} = 5,00,000$$

$$\text{Current Liabilities} = \frac{\text{Current Assets}}{\text{Current Ratio}} = \frac{5,00,000}{2.5} = 2,00,000$$

2. $$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

$$1.5 = \frac{\text{Quick Assets}}{2,00,000}$$

$$\text{Quick Assets} = 2,00,000 \times 1.5$$
$$= 3,00,000$$

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

$$\text{6Times} = \frac{\text{Cost of Goods Sold}}{2,00,000}$$

$$\text{Closing Stock / Average Stock} = \text{Total Current Assets – Quick Assets}$$
$$= 5,00,000 - 3,00,000$$
$$= 2,00,000$$

$$\backslash\ \text{Cost of Goods Sold} = 2,00,000 \times 6$$
$$= 12,00,000$$

4. Calculation of Gross Profit

$$\text{Sales} = \text{Cost of Goods Sold + Gross Profit @ 20\% on Sales}$$
$$100 = 80 + 20$$

For Cost	**80 =**	**12,00,000**
Gross Profit	**20 =**	**?**

$$\textbf{Gross Profit} = \frac{12,00,000 \times 20}{80} = 3,00,000$$

Sales = Cost of Goods Sold + Gross Profit
= 12,00,000 + 3,00,000
= 15,00,000

5. Calculation of Debtors

$$\text{Debtors turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}$$

$$6 \text{ Times} = \frac{15,00,000}{\text{Average Accounts Receivables}}$$

$$\text{Average Accounts Receivables} = \frac{15,00,000}{6}$$

Thus, Average Debtors = 2,50,000

6. $$\text{Fixed Assets Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Fixed Assets}}$$

$$2 \text{ Times} = \frac{12,00,000}{\text{Fixed Assets}}$$

$$\text{Fixed Assets} = \frac{12,00,000}{2} = 6,00,000$$

7. Calculation of Bank Balance

		Total Current Assets		5,00,000
Less:	Debtors		25,000	
	Stock		20,000	45,000
		Bank Balance		50,000

Balance Sheet

Liabilities	Rs.	Assets	Rs.
Share Capital	5,00,000	Fixed Assets	6,00,000
Reserve & Surplus	2,50,000	Investments	---
(50% of 5,00,000)		Current Assets :-	
Secured Loans :-		Closing Stock	2,00,000
Long Term Debts (Diff. Amt.)	1,50,000	Debtors	2,50,000
Current Liabilities	2,00,000	Cash At Bank	50,000
	11,00,000		11,00,000

Q9. Question Paper 2013

Using the following data complete the Balance Sheet. Gross profit (20% of sales) Rs.1,20,000 Credit Sales to total sales – 80%. Total assets turn over (on sales) 3 time, closing stock turn over (to cost of sales) 8 times Average collection period (for 360 days) 18 days Current Ratio – 1.6

Long-term debt to equity-40%

Balance Sheet

Share Capital	10,00,000	Fixed Assets	?
L.T. Debt	?	Stock	?
Creditors	?	Debtors	?
		Cash	?
	?		?

Sol: Calculation of

1.. Calculation of Gross Profit

Sales = Cost of Goods Sold + Gross Profit @ 20% on Sales

100 = 80 + 20

For Credit Sales 80 = 12,00,000

Total Sales 100 = ?

$$\text{Total Sales} = \frac{12,00,000 \times 100}{80} = 1,50,000$$

Credit Sales = Total Sales – Cash Sales (20% of Total Sales of 1,50,000)

= 1,50,000 – 30,000

= 1,20,000

2.

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

$$20 = \frac{\text{Gross Profit}}{1,50,000} \times 100$$

$$\text{Gross Profit} = \frac{20 \times 1,50,000}{100} = 30,000$$

3. Calculation of Cost of Goods Sold

Cost of Goods Sold = Sales - Gross Profit

= 1,50,000 – 30,000

= 1,20,000

4. Calculation of Stock

Stock turnover Ratio (to cost of Sale) = 8 Times

$$\text{Stock turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$$

$$8 = \frac{1,20,000}{\text{Average Stock}}$$

$$\text{Average Stock} = \frac{1,20,000}{8} = 15,000$$

5. Total Assets Turnover Ratio = $\frac{\text{Sales}}{\text{Total Assets}}$

$$3 \text{ Times} = \frac{1{,}50{,}000}{\text{Total Assets}}$$

$$\text{Total Assets} = \frac{1{,}50{,}000}{3} \quad = 50{,}000$$

6. **Calculation of Debtors**

$$\text{Debtors Collection Period} = \frac{\text{No. of Days in a year}}{\text{Debtors Turn over Ratio}}$$

$$18 \text{ Days} = \frac{360 \text{ Days}}{\text{Debtors Turn over Ratio}}$$

$$\text{Debtors Turn over Ratio} = \frac{360}{18} \quad = 20 \text{ Times}$$

$$\text{Debtors Turn over Ratio} = \frac{\text{Credit Sales}}{\text{Average Debtors}}$$

$$20 \text{ Times} = \frac{1{,}20{,}000}{\text{Average Debtors}}$$

$$\text{Average Debtors} = \frac{1{,}20{,}000}{20} \quad = 6{,}000$$

7. **Long Term Debt to Equity is 40%, Share Capital = 25,000 (10,00,000 Given)**

Long Term Debt = 25,000 x 40 / 100 = 10,000

8. **Calculation of Current Liabilities**

	Total Assets		50,000
Less:	Shareholders Equity	25,000	
	Long Term Debt	10,000	35,000
	Current Liabilities		15,000

9. **Calculation of Current Assets**

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

$$1.6 = \frac{\text{Current Assets}}{15{,}000}$$

\ Current Assets = 15,000 x 1.6
= 24,000

10. **Calculation of Bank Balance**

	Total Current Assets		24,000
Less:	Debtors	6,000	
	Stock	15,000	21,000
	Bank Balance		3,000

11. **Calculation of Fixed Assets**

Fixed Assets = Total Assets - Current Assets
= 50,000 – 24,000
= 26,000

Balance Sheet			
Liabilities	**Rs.**	**Assets**	**Rs.**
Share Capital	**25,000**	**Fixed Assets**	**26,000**
Secured Loans :-		**Investments**	**----**
Long Term Debts	**10,000**	**Current Assets :-**	
Current Liabilities	**15,000**	**Closing Stock**	**15,000**
		Debtors	**6,000**
		Cash At Bank	**3,000**
	50,000		**50,000**

Q10. Question Paper 2013

You have been furnished with the financial information of Vishwaradhya Mills Ltd. for the year 2012.

Balance Sheet as on 31-03-2012

Liabilities	Rs.	Assets		Rs.
Equity share capital	250000	Plant & Equipment		160000
(Rs.100 each)		Land & buildings		20000
Retained Earnings	92000	Cash		40000
Sundry creditors	26000	S. Debtors	90000	
Bills payable	50000	Less	10000	80000
Other current liabilities	5000	Allowances		
		Stock		120000
		Prepaid Insurance		3000
	4,23,000			4,23,000

Statement of profit for the year ending 31-3-2012

Sales	1000000
Less : cost of goods sold	770000
Gross profit on sales	230000
Less : Operating expenses	170000
Net profit	60000
Less taxes (0.35)	21000
Net profit after tax	39000

At the beginning of the year sundry debtors Rs.75000 and stock Rs.100000 were found.

Determine the following ratios:

1. Current ratio
2. Quick ratio
3. Stock turnover
4. Debtors turnover
5. Gross profit ratio
6. Net profit ratio
7. Earnings per share
8. Rate of return on equity capital

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{2,43,000}{81,000} = 3:1$$

Current Assets		Current Liabilities	
Cash	**40,000**	**Creditors**	**26,000**
Debtors	**80,000**	**Bills Payable**	**50,000**
Stock	**1,20,000**	**Other Current Liabilities**	**5,000**
Prepaid Insurance	**3,000**		**81,000**
	2,43,000		

2. $$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{1,20,000}{81,000} = 2:1$$

$$\text{Quick Assets} = \text{Current Assets} - \text{Stock} - \text{Prepaid Insurance}$$
$$= 2,43,000 - 1,20,000 - 3,000$$
$$= 1,20,000$$

3. $$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{7,70,000}{1,10,000} = 7 \text{ Times}$$

$$\text{Average Stock} = \frac{\text{Opening Stock} + \text{Closing Stock}}{2} = \frac{1,00,000 + 1,20,000}{2}$$

$$= 1,10,000$$

4. $$\text{Debtors Turn over Ratio} = \frac{\text{Credit Sales}}{\text{Average Debtors}}$$

$$= \frac{10,00,000}{82,500} = 12.12$$

$$\text{Average Debtors} = \frac{\text{Opening Debtors} + \text{Closing Debtors}}{2} = \frac{75,000 + 90,000}{2}$$

$$= 82,500$$

5. $$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Net Sales}} \text{ x } 100 = \frac{2,30,000}{10,00,000} \text{ x } 100 = 23\%$$

6. $$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \text{ x } 100 = \frac{60,000}{10,00,000} \text{ x } 100 = 6\%$$

7. $$\text{Earnings Per Share} = \frac{\text{Net Profit After Tax}}{\text{No. of Equity Shares}} = \frac{39,000}{2,500} = \text{Rs.}15.3$$

8. **Rate of Return on Equity Shares**

$$\text{Return on Shareholders Fund Ratio} = \frac{\text{Net Profit After Tax}}{\text{Proprietary Fund}} \text{ x } 100$$

$$= \frac{39,000}{3,42,000} \text{ x } 100 = 11.40\ \%$$

$$\text{Shareholders Fund} = \text{Equity Shares} + \text{Retained Earnings}$$
$$= 2,50,000 + 92,000 = 3,42,000$$

Q11. Question Paper 2014

7. Following is the balance sheet of ABC Co. Ltd.; as on 31.03.2012

Share capital	4,50,000	Fixed assets	9,50,000	
Reserve & surplus	2,40,000	Less dep.	75,000	8,75,000
8% debentures	7,00,000	Current assets:		
Creditors	6,20,000	stock		3,10,000
Proposed dividend	25,000	debtors		7,70,000
Bills payable	20,000	Cash in hand		80,000
		Bank balance		20,000
	20,55,000			20,55,000

The extracts from the P&L account shows the following:

Sales for the year Rs.	31,00,000
Cost of goods sold	Rs.13,75,000
Sundry expenses (Excluding debenture interest)	Rs.8,05,000
Depreciation	Rs.2,50,000

You are required to calculate: 1) current ratio 2) quick ratio 3) gross profit ratio 4) net profit ratio 5) stock turnover ratio 6) debtors turnover ratio 7) return on total assets 8) return on shareholder's fund 9) fixed asset turnover ratio.

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{11,80,000}{6,66,000} = 1.77 : 1$$

Current Assets		Current Liabilities	
Stock	3,10,000	Creditors	6,20,000
Debtors	7,70,000	Bills Payable	21,000
Cash	80,000	Proposed Dividend	25,000
Bank Balance	20,000		6,66,000
	11,80,000		

2. $$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{8,70,000}{6,66,000} = 1.31 : 1$$

Quick Assets = Current Assets – Stock - Prepaid Insurance
= 11,80,000 – 3,10,000
= 8,70,000

3. Calculation of Gross Profit

Gross Profit = Sales – Cost of Goods Sold
= 31,00,000 – 13,75,000
= 17,25,000

4. Calculation of Net Profit

	Sales		31,00,000
Less:	Cost of Goods Sold		13,75,000
	Gross Profit		17,25,000
Less:	Operating Expenses :-		
	Sundry Expenses	8,05,000	
	Interest on Debentures (8% on 7,00,000)	56,000	
	Depreciation	2,50,000	11,11,000
	Net Profit		6,14,000

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

$$= \frac{6,14,000}{31,00,000} \times 100$$

$$= 19.81\%$$

Net Profit = Sales - Cost of Goods Sold - Operating Expenses

5. $$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{13,75,000}{3,10,000} = 4.435 \text{ Times}$$

6. Debtors Turn over Ratio = $\frac{\text{Credit Sales}}{\text{Average Debtors}}$ = $\frac{31,00,000}{7,70,000}$ = 4.025 Times

7. Return on Total Assets = $\frac{\text{Total Sales}}{\text{Total Assets}}$ = $\frac{31,00,000}{20,55,000}$ = 1.508 Times

8. Return on Shareholders Fund = $\frac{\text{Net Profit}}{\text{Shareholders Fund}}$ x 100 = $\frac{6,14,000}{6,90,000}$ x 100 = 88.98%

9. Fixed Assets Turnover Ratio = $\frac{\text{Sales}}{\text{Fixed Assets}}$ = $\frac{31,00,000}{8,75,000}$ = 3.54

Q12. Question Paper 2014

Following are the particulars of Vinayaka Co. Ltd. prepare balance sheet by calculating as much as possible.

Current Ratio 1:6:1

Stock turnover ratio 8 times.

Total assets turnover ratio : 3 times

Average collection period 18 days (360 days)

Long term dept to equity 40%

Gross profit (20% of sales) Rs.60,000

Shareholder's Equity Rs.50,000

Cash sales 20% of total sales.

Sol: Calculation of

1.. Calculation of Sales

Gross Profit (20% of Sales) = 60,000

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

20 = $\frac{60,000}{\text{Sales}}$ x 100

Sales = $\frac{60,000}{20}$ x 100 = 3,00,000

Credit Sales = Total Sales – Cash Sales (20% of Total Sales of 3,00,000)
= 3,00,000 – 60,000
= 2,40,000

Cost of Goods Sold = Sales - Gross Profit @ 20% on Sales
= 3,00,000 - 60,000
= 2,40,000

2. Calculation of Stock

Stock turnover Ratio (to cost of Sale) = 8 Times

Stock turnover Ratio = $\frac{\text{Cost of Goods Sold}}{\text{Average Stock}}$

8 = $\frac{2,40,000}{\text{Average Stock}}$

Average Stock = $\frac{2,40,000}{8}$ =30,000

3. Total Assets Turnover Ratio = $\frac{\text{Sales}}{\text{Total Assets}}$

$$3 \text{ Times} = \frac{3,00,000}{\text{Total Assets}}$$

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

4. Calculation of Debtors

$$\text{Debtors Collection Period} = \frac{\text{No. of Days in a year}}{\text{Debtors Turn over Ratio}}$$

$$18 \text{ Days} = \frac{360 \text{ Days}}{\text{Debtors Turn over Ratio}}$$

$$\text{Debtors Turn over Ratio} = \frac{360}{18} = 20 \text{ Times}$$

$$\text{Debtors Turn over Ratio} = \frac{\text{Credit Sales}}{\text{Average Debtors}}$$

$$20 \text{ Times} = \frac{2,40,000}{\text{Average Debtors}}$$

$$\text{Average Debtors} = \frac{2,40,000}{20} = 12,000$$

5. Long Term Debt to Equity is 40%, Shareholders Equity = 50,000

Long Term Debt = 50,000 x 40 / 100 = 20,000

6. Calculation of Current Liabilities

	Total Assets		1,00,000
Less:	Shareholders Equity	50,000	
	Long Term Debt	20,000	70,000
	Current Liabilities		30,000

7. Calculation of Current Assets

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

$$1.6 = \frac{\text{Current Assets}}{30,000}$$

\ Current Assets = 30,000 x 1.6
= 48,000

8. Calculation of Bank Balance

	Total Current Assets		48,000
Less:	Debtors	12,000	
	Stock	30,000	42,000
	Bank Balance		6,000

3. Calculation of Fixed Assets

Fixed Assets = Total Assets - Current Assets
= 1,00,000 – 48,000
= 52,000

Balance Sheet			
Liabilities	**Rs.**	**Assets**	**Rs.**
Share Capital	**50,000**	**Fixed Assets**	**52,000**
Secured Loans :-		**Investments**	**----**
Long Term Debts	**20,000**	**Current Assets :-**	
Current Liabilities	**30,000**	**Closing Stock**	**30,000**
		Debtors	**12,000**
		Cash At Bank	**6,000**
	1,00,000		**1,00,000**

Q13. Question Paper 2015

Follwing are the financial statements of a Adarsh Company Balance Sheet as on 31-3-2014.

Capital	200000	Building	70000
P & L	50000	Plant	50000
Current liabilities	60000	Motar	80000
		Furniture	10000
		Stock	50000
		Debtors	20000
		Cash	30000
	310000		310000

Trading and P&L Account for the year ended 31-3-2014.

To opening stock	20000	By sales	150000
To purchases	105000	By stock	50000
To wages	5000		
To direct exp.	5000		
To Gross profit	65000		
	200000		200000
To office exp.	20000	By G/Profit	65000
To selling exp.	10000		
To Non-op exp.	5000		
To Net Profit	30000		
	65000		65000

Calculate the following :

1) Current ratio
2) Quick ratio
3) Gross profit ratio
4) N/P ratio
5) Operating profit ratio
6) Operating cost ratio
7) Stock turn over ratio

Sol: Working Note :-

1. Calculation of Current Assets :-

Stock	50,000
Debtors	20,000
Cash	30,000
Current Assets	**1,00,000**

2. Calculation of Current Liabilities :-

Current Liabilities	**60,000**

3. Calculation of Liquid Assets :-

Debtors	20,000
Cash	30,000
Liquid Assets	**50,000**

4. Calculation of Cost of Goods Sold :-

	Opening Stock	20,000
	Purchases	1,05,000
	Wages	5,000
	Direct Expenses	5,000
		1,35,000
Less:	Closing Stock	50,000
	Cost of Goods Sold	**85,000**

5. Calculation of Operating Expenses :-

Office Expenses	20,000
Selling Expenses	10,000
Operating Expenses	**30,000**

6. Calculation of Operating Profit :-

	Gross Profit	65,000
Less:	Operating Expenses	30,000
	Operating Profit	**35,000**

7. Calculation of Average Stock :-

$$\text{Average Stock} = \frac{\text{Opening Stock + Closing Stock}}{2} = \frac{20,000 + 50,000}{2} = \frac{70,000}{2} = \mathbf{35,000}$$

Calculation of Ratios :-

$$\textbf{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{1,00,000}{60,000} = \mathbf{1.67 : 1}$$

$$\textbf{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{50,000}{60,000} = \mathbf{0.833 : 1}$$

$$\textbf{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100 = \frac{65,000}{1,50,000} \times 100 = \mathbf{43.33}$$

$$\textbf{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Sales}} \times 100 = \frac{30,000}{1,50,000} \times 100 = \mathbf{0.2}$$

$$\textbf{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Sales}} = \frac{35,000}{1,50,000} = \mathbf{0.233}$$

$$\textbf{Operating Cost Ratio} = \frac{\text{Cost of Goods Sold + Operating Expenses}}{\text{Sales}} \times 100$$

$$= \frac{85,000 + 30,000}{1,50,000} \times 100 = \mathbf{76.67\ \%}$$

$$\textbf{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{85,000}{35,000} = \mathbf{2.428}$$

Q14. Question Paper 2015

From the following information relating to Sampath Mukta Ltd.

Compute:

(a) current ratio (b) liquid ratio (c) gross profit ratio (d) operating cost ratio (e) net profit ratio.

Stock	50000	Creditors	60000
Debtors	40000	B.P.	40000
B.R.	10000	Net sales	700000
Advanced	4000	B.O.D.	4000
Cash	30000	Gross profit	50000
Net profit	30000		

Sol: Working Note :-

1. Calculation of Current Assets :-

Stock	**50,000**
Debtors	**40,000**
Bills Receivables	**10,000**
Cash	**30,000**
Advances	**4,000**
	1,34,000

2. Calculation of Current Liabilities :-

Creditors	**60,000**
Bills Payable	**40,000**
Bank Over Draft (BOD)	**4,000**
	1,04,000

3. Calculation of Liquid Assets :-

Debtors	40,000
Bills Receivables	10,000
Cash	30,000
Advances	4,000
	84,000

4. Calculation of Liquid Liabilities :-

Creditors	60,000
Bills Payable	40,000
	1,00,000

Calculation of Ratios :-

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{1,34,000}{1,04,000} = 1.29 : 1$$

$$\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}} = \frac{84,000}{1,00,000} = 0.84 : 1$$

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Sales}} \times 100 = \frac{50,000}{7,00,000} \times 100 = 7.14\ \%$$

$$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Net Sales}} \times 100 = \frac{30,000}{7,00,000} \times 100 = 4.28\ \%$$

$$\text{Operating Cost Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100 = \frac{6,70,000}{7,00,000} \times 100 = 96.71\ \%$$

Note: Net Sales – Net profit = Operating Cost
7,00,000 – 30,000 = 6,70,000

Q15. Question Paper 2016

From the information extracted from the books of Maruti Ltd. Compute the following ratios for 2015.

1) Current ratio
2) Quick ratio
3) Stock turnover ratio
4) Debtors turnover ratio
5) Average collection period
6) Creditors turnover ratio
7) Average payment period

Particulars	31.03.2014	31.03.2015
Bills receivable	90000	180000
Bills payable	180000	90000
Sundry debtors	360000	450000
Sundry creditors	225000	315000
Stock	288000	432000
Cash in hand	--	360000
Cash at bank	--	288000
Buildings	--	600000

Additional information:
Gross profit 25% on sales, the actual gross profit Rs.450000.

Sol: Calculation of

1. $$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{17,10,000}{4,05,000} = 4.22$$

Current Assets		Current Liabilities	
Bills Receivables	1.80.000	Bills Payable	90,000
Sundry Debtors	4.50.000	Creditors	3,15,000
Stock	4.32.000		4,05,000
Cash in Hand	3.60.000		
Cash at Bank	2.88.000		
	17.10.000		

2. $$\text{Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}} = \frac{12{,}78{,}000}{4{,}05{,}000} = 3.15$$

Quick Assets = Current Assets – Stock
= 17.10.000 - 4.32.000
= 12,78,000

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

$$25 = \frac{4{,}50{,}000}{\text{Sales}} \times 100$$

$$\backslash\ \text{Sales} = \frac{4{,}50{,}000}{25} \times 100 = 18{,}00{,}000$$

Cost of Goods Sold = Sales - Gross Profit
= 18,00,000 – 4,50,000
= 13,50,000

4. $$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Stock}} = \frac{13{,}50{,}000}{\text{Average Stock}} = 3.75 \text{ Times}$$

$$\text{Average Stock} = \frac{\text{Opening Stock + Closing Stock}}{2} = \frac{2{,}88{,}000 + 4{,}32{,}000}{2}$$

= 3,60,000

5. $$\text{Debtors Turn over Ratio} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}$$

$$= \frac{18{,}00{,}000}{5{,}40{,}000} = 3.33$$

Average Accounts Receivables =

$$= \frac{\text{Opening Bills Receivables + Opening Debtors + Closing Bills Receivables + Closing Debtors}}{2}$$

$$= \frac{90{,}000 + 3{,}60{,}000 + 1{,}80{,}000 + 4{,}50{,}000}{2} = \frac{10{,}80{,}000}{2} = 5{,}40{,}000$$

6. $$\text{Average Collection Period} = \frac{\text{No. of Months in a Year}}{\text{Debtors Turn over Ratio}} = \frac{12}{3.33} = 3.6 \text{ or } 4 \text{ Times}$$

7. Calculation of Purchases

Purchases = Cost of Goods Sold + Closing Stock - Opening Stock
= 13,50,000 + 4,32,000 - 2,88,000
= 5,30,000

8. $$\text{Creditors Turn over Ratio} = \frac{\text{Credit Purchases}}{\text{Average Accounts Payable}}$$

$$= \frac{5{,}30{,}000}{4{,}05{,}000} = 1.308$$

Average Accounts Payable =

$$= \frac{\text{Opening Bills Payable + Opening Creditors + Closing Bills Payable + Closing Creditors}}{2}$$

$$= \frac{1{,}80{,}000 + 2{,}25{,}000 + 90{,}000 + 3{,}15{,}000}{2} = \frac{8{,}10{,}000}{2} = 4{,}05{,}000$$

9. **Average Payment Period** $= \frac{\text{No. of Months in a Year}}{\text{Creditors Turn over Ratio}} = \frac{12}{1.308} = 9.17$ **Times**

Q16. Question Paper 2016

Prepare Trading Profit and Loss A/c and Balance sheet from the following data:

Fixed Assets	Rs.10,00,000
Closing Stock	Rs.1,00,000

Fixed assets to total current assets 5:7

Fixed assets to capital 5:4

Capital to total liabilities 1:2

Net profit to capital 1:5

Inventory turnover ratio 10 times (COGS)

Net profit ratio 20%

Gross profit ratio 25%

Sol: Calculation of

1. **Calculation of Sakes based on Closing Stock**

$$\text{Inventory / Stock Turnover Ratio} = \frac{\text{Sales}}{\text{Inventory}}$$

$$10 \text{ Times} = \frac{\text{Sales}}{1{,}00{,}000}$$

$$\backslash \text{ Sales} = 1{,}00{,}000 \times 10$$
$$= 10{,}00{,}000$$

2. **Calculation of Gross Profit**

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

$$25 = \frac{\text{Gross Profit}}{10{,}00{,}000} \times 100$$

$$\backslash \text{ Gross Profit} = \frac{25 \times 10{,}00{,}000}{100} = 2{,}50{,}000$$

3. **Calculation of Net Profit**

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

$$20 = \frac{\text{Net Profit}}{10{,}00{,}000} \times 100$$

$$\backslash \text{ Net Profit} = \frac{20 \times 10{,}00{,}000}{100} = 2{,}00{,}000$$

4. **Calculation of Current Assets Based on Fixed Assets**

Fixed Assets to Total Current Assets = 5 : 7 , it means Fixed Asset is 5 & Current Assets is 7

Fixed Assets to Current Assets Ratio (5 : 7) = $\dfrac{\textbf{Fixed Assets}}{\textbf{Current Assets}}$

For 5 = 10,00,000
7 = Current Assets

\ Current Assets = $\dfrac{10,00,000 \times 7}{5}$ **= 14,00,000**

5. Calculation of Share Capital based on Fixed Assets
Fixed Assets to Capital = 5 : 4 , it means Fixed Assets is 5 & Capital is 4

Fixed Assets to Capital Ratio (5 : 4) = $\dfrac{\textbf{Fixed Assets}}{\textbf{Capital}}$

For 5 = 10,00,000
4 = Capital

\ Capital = $\dfrac{10,00,000 \times 4}{5}$ **= 8,00,000**

6. Calculation of Total Liabilities based on Capital
Capital to Total liabilities = 1 : 2 , it means Capital is 1 & Total Liabilities is 2

Capital to Total liabilities (1 : 2) = $\dfrac{\textbf{Capital}}{\textbf{Total liabilities}}$

For 1 = 8,00,000
2 = Total liabilities

\ Total liabilities = $\dfrac{8,00,000 \times 2}{1}$ **= 16,00,000**

7. Calculation of Capital based on Net Profit
Net Profit to Capital = 1 : 5 , It means Net Profit is 1 & Capital is 5

Net Profit to Capital (1 : 5) = $\dfrac{\textbf{Net Profit}}{\textbf{Capital}}$

For 1 = 2,00,000
5 = Capital

\ Capital = 2,00,000 x 5
= 10,00,000

Solved Exercises from Dr. Bhavi Basavaraj G & Ravi Kumar B Minajigi

1. Ratio Analysis

Q1. From the following information calculate Operating Cost Ratio and Net Profit Ratio.

a) Net Sales = 8,00,000
b) Cost of Goods Sold = 5,00,000
c) Operating Expenses = 60,000

Solution: 1. Calculation of

$$\textbf{Operating Cost Ratio} = \frac{\textbf{Operating Cost}}{\textbf{Net Sales}} \textbf{ x 100} \quad = \frac{5,60,000}{8,00,000} \text{ x } 100 \quad = \quad 70\%$$

Where, Operating Cost = Cost of Goods Sold + Operating Expenses
= 5,00,000 + 60,000
= 5,60,000

2. Calculation of

$$\textbf{Net Profit Ratio} = \frac{\textbf{Net Profit}}{\textbf{Net Sales}} \textbf{ x 100}$$

$$= \frac{2,40,000}{8,00,000} \text{ x } 100$$

= 30%

	Net Sales	8,00,000
Less:	Cost of Goods Sold	5,00,000
	Operating Incomes / Gross Profit	3,00,000
Less:	Operating Expenses	60,000
	Net Profit	2,40,000

Q2. Compute (1) Sales and (2) Sundry Debtors from the following:

Debtor Velocity	= 3 Months	Gross Profit Ratio	= 25%
Gross Profit	= Rs.1,60,000	Liquid Assets	= Rs.2,00,000
Bills Receivables	= Rs.10,000	Bills Payable	= 4,000

Closing Stock is Rs.4,000 more than the opening Stock. **(GUG: Question Paper 2013)**

Solution: 1. Calculation of Sales

$$\textbf{Gross Profit Ratio} = \frac{\textbf{Gross Profit}}{\textbf{Sales}} \textbf{ x 100}$$

$$25 = \frac{1,60,000}{\text{Sales}} \text{ x } 100 \qquad \backslash \text{ Sales} = \frac{1,60,000}{25} \text{ x } 100 \qquad = 6,40,000$$

2. Calculation of Sundry Debtors

$$\textbf{Debtors Collection Period Ratio} = \frac{\textbf{No. of Months in a year}}{\textbf{Debtors Turnover Ratio}}$$

$$\textbf{3 Months} = \frac{\textbf{12 Months}}{\textbf{Debtors Turnover Ratio}}$$

$$\textbf{Debtors Turnover Ratio} = \frac{\textbf{12}}{\textbf{3}} \quad \textbf{= 4 Times}$$

$$\textbf{Debtors Turnover Ratio} = \frac{\textbf{Credit Sales}}{\textbf{Average Accounts Receivable}}$$

$$\textbf{4 Times} = \frac{\textbf{6,40,000}}{\textbf{Average Accounts Receivable}}$$

$$\textbf{Average Accounts Receivable} = \frac{\textbf{6,40,000}}{\textbf{4}} \quad \textbf{= 1,60,000}$$

Average Accounts Receivable = Debtors + Bills Receivables
1,60,000 = Debtors + 10,000

\ Debtors = 1,60,000 - 10,000
= 1,50,000

Exercises Solved from Text Book Dr. B. B. Kalatippi

Section – C 15 Marks

Q4. **Page No.: 162**

Sol: **Calculation of**

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

Current Assets		
Closing Stock		26,500
Sundry Debtors	21,000	
Less: Provisions		
for Bad Debts	1,000	20,000
Bank		4,000
Cash		5,000
Bills Receivables		7,500
Market Securities		4,000
Total Current Assets		67,000

Current Liabilities	
Sundry Creditors	16,000
Bills Payable	14,500
Provision for Tax	7,500
	38,000

$$\text{Current Ratio} = \frac{67,000}{38,000} = 1.76$$

2. $$\text{Liquid Ratio} = \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}} = \frac{40,500}{38,000} = 1.07$$

$$\text{Liquid Assets} = \text{Current Assets - Stock} = 67,000 – 26,500 = 40,500$$

3. $$\text{Stock Turnover Ratio} = \frac{\text{Cost of Goods Sold}}{\text{Average Inventories}}$$

$$\text{Cost of Goods Sold} = \text{Opening Stock + Purchases – Closing Stock}$$
$$= 23,500 + 90,000 – 26,500 = 87,000$$

$$\text{Average Inventories} = \frac{\text{Opening Stock + Closing Stock}}{2}$$
$$= \frac{23,500 + 26,500}{2} = \frac{50,000}{2} = 25,000$$

$$\text{Stock Turnover Ratio} = \frac{87,000}{25,000} = 3.48 \text{ Times}$$

OR

$$\text{Stock Turnover Ratio} = \frac{\text{Net Sales}}{\text{Average Inventories}} = \frac{1,26,000}{25,000} = 5.04 \text{ Times}$$

4. $$\text{Debtors Turnover Ratio} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}$$

$$= \frac{1,26,000}{28,500} = 4.42 \text{ Times}$$

$$\text{Average Accounts Receivables} = \text{Debtors + Bills Receivable}$$
$$= 21,000 + 7,500 = 28,500$$

5. $$\text{Creditors Turnover Ratio} = \frac{\text{Credit Purchases}}{\text{Average Accounts Payable}}$$

$$= \frac{90,000}{30,500} = 2.95 \text{ Times}$$

Average Accounts Payable = Creditors + Bills Payable
= 16,000 + 14,500 = 30,500

Q5. Page No.: 163
Sol: Calculation of

1. Current Ratio $= \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{4,50,000}{2,50,000} = 1.8$

Current Assets		Current Liabilities	
Stock	2,00,000	Creditors	1,50,000
Debtors	1,50,000	Bank Overdraft	1,00,000
Cash	1,00,000		2,50,000
	4,50,000		

2. Liquid Ratio $= \frac{\text{Liquid Assets}}{\text{Liquid Liabilities}} = \frac{2,50,000}{1,50,000} = 1.67$

Liquid Assets = Current Assets - Stock
= 4,50,000 – 2,00,000
= 2,50,000

Liquid Liabilities = Current Liabilities - Bank Overdraft
= 2,50,000 – 1,00,000
= 1,50,000

3. Debts-Equity Ratio $= \frac{\text{Total Long Term Fund}}{\text{Shareholders Fund}}$ **(Debentures)**

$$= \frac{1,50,000}{5,50,000} \ 0.27$$

Shareholders Fund = Equity Share Capital + Reserve Fund
= 5,00,000 + 50,000 = 5,50,000

4. Proprietary Ratio $= \frac{\text{Shareholders Fund}}{\text{Total Tangible Assets}}$

$$= \frac{5,50,000}{9,50,000} = 0.58$$

Total Tangible Assets = Fixed Assets + Current Assets
= 5,00,000 + 4,50,000 = 9,00,000

5. Fixed Assets Ratio $= \frac{\text{Fixed Assets}}{\text{Long Term Funds}}$

$$= \frac{5,00,000}{7,00,000} = 0.71$$

Long Term Funds = Equity Share Capital + Reserve Fund + Debentures
= 5,00,000 + 50,000 + 1,50,000 = 7,00,000

Ratios at Glance

A. Liquidity Ratio

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

2. $$\text{Acid Test Ratio/Liquid/Quick Ratio} = \frac{\text{Quick Assets}}{\text{Quick Liabilities}}$$

3. $$\text{Absolute Liquid Ratio/Super Quick Ratio} = \frac{\text{Absolute Quick Assets}}{\text{Absolute Quick Liabilities}}$$

B. Solvency Ratio / Leverage Ratio

1. $$\text{Debt-Equity Ratio} = \frac{\text{Long Term Debts}}{\text{Shareholders Fund}}$$

   OR

   $$\text{Debt-Equity Ratio} = \frac{\text{Total Liabilities}}{\text{Shareholders Fund}}$$

2. $$\text{Proprietary Ratio} = \frac{\text{Shareholders Fund}}{\text{Total Tangible Assets}}$$

3. $$\text{Fixed Assets to Proprietary Fund Ratio} = \frac{\text{Fixed Assets}}{\text{Shareholders Fund}}$$

4. $$\text{Debt to Total Capital Ratio} = \frac{\text{Total Debt}}{\text{Total Assets (Total Capital)}}$$

5. $$\text{Current Assets to Net Worth} = \frac{\text{Current Assets}}{\text{Net Worth}}$$

6. $$\text{Total Liabilities to Total Assets Ratio} = \frac{\text{Total Liabilities}}{\text{Total Assets}}$$

7. $$\text{Capital Gearing Ratio} = \frac{\text{Fixed Interest \& Dividend Bearing Fund}}{\text{Equity Shareholders Fund}}$$

8. $$\text{Fixed Assets to Long Term Fund Ratio} = \frac{\text{Fixed Assets}}{\text{Long Term Fund}}$$

9. $$\text{Interest Coverage Ratio} = \frac{\text{Earnings Before Interest \& Tax (EBIT)}}{\text{Fixed Interest Charges}}$$

10. $$\text{Debt Service Coverage Ratio} = \frac{\text{Profit Before Interest \& Tax (PBIT)}}{\text{Interest} + \dfrac{\text{Principal Payment Installment}}{1 - \text{Tax Rate}}}$$

C. Activity/ Efficiency Ratio

1. $$\text{Fixed Assets Turnover Ratio} = \frac{\text{Net Sales}}{\text{Fixed Assets}}$$

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

3. $$\text{Debtors Turnover Ratio (Debtors Velocity)} = \frac{\text{Credit Sales}}{\text{Average Accounts Receivables}}$$

4. **Debtors Collection Period Ratio** = $\dfrac{\text{No. of Months/Days in a year}}{\text{Debtors Turnover Ratio}}$

OR

$\dfrac{\text{Average Accounts Receivables x No. of Months/Days in a year}}{\text{Credit Sales for the Year}}$

5. **Creditors Turnover Ratio (Creditors Velocity)** = $\dfrac{\text{Credit Purchases}}{\text{Average Accounts Payables}}$

6. **Debt Payment Period Ratio** = $\dfrac{\text{No. of Months/Days in a year}}{\text{Creditors Turnover Ratio}}$

OR

$\dfrac{\text{Average Accounts Payables x No. of Months/Days in a year}}{\text{Credit Purchases for the Year}}$

7. **Inventory/ Stock Turnover Ratio** = $\dfrac{\text{Cost of Goods Sold}}{\text{Average Stock}}$

8. **Total Assets Turnover Ratio** = $\dfrac{\text{Sales}}{\text{Total Assets}}$

9. **Capital Turnover Ratio** = $\dfrac{\text{Cost of Sales}}{\text{Capital Employed}}$

OR

$\dfrac{\text{Sales}}{\text{Capital Employed}}$

OR

$\dfrac{\text{Cost of Sales or Sales}}{\text{Shareholders Fund}}$

D. Profitability Ratio

1. **Gross Profit Ratio** = $\dfrac{\text{Gross Profit}}{\text{Net Sales}}$ **x 100**

2. **Net Profit Ratio** = $\dfrac{\text{Net Profit}}{\text{Net Sales}}$ **x 100**

3. **Operating Profit Ratio** = $\dfrac{\text{Operating Profit}}{\text{Net Sales}}$ **x 100**

4. **Operating Cost Ratio** = $\dfrac{\text{Operating Cost}}{\text{Net Sales}}$ **x 100**

5. **Return on Investment (ROI) = Return on Capital Employed** $\dfrac{\text{Net Profit Before Interest \& Tax}}{\text{Capital Employed}}$ **x 100**

OR

$\dfrac{\text{Operating Profit}}{\text{Capital Employed}}$ **x 100**

6. **Return on Total Assets** = $\dfrac{\text{EBIT}}{\text{Total Assets}}$ **x 100**

7. **Return on Total Equity** = $\dfrac{\text{Profit After Tax}}{\text{Shareholders Fund}}$ **x 100**

8. **Return on Equity Shareholders =** $$\frac{\textbf{Profit After Tax \& Preference Dividend}}{\textbf{Equity Shareholders Fund}} \times 100$$

9. **Return on Shareholders Fund =** $$\frac{\textbf{Net Profit After}}{\textbf{Interest \& Tax}} \times 100$$

10. **Earnings Per Share (EPS) =** $$\frac{\textbf{Net Profit After Tax - Preference Dividend}}{\textbf{No. of Equity Shares}} \times 100$$

11. **Price Earning Ratio =** $$\frac{\textbf{Market Price per Equity Share}}{\textbf{Earnings Per Share}} \times 100$$

12. **Dividend per share =** $$\frac{\textbf{Dividend}}{\textbf{No. of Equity Shares}} \times 100$$

13. **Dividend Payout Ratio =** $$\frac{\textbf{Dividend per share}}{\textbf{Earnings Per Share}} \times 100$$

14. **Dividend yield Ratio =** $$\frac{\textbf{Dividend per share}}{\textbf{Market Price per Share}} \times 100$$

15. **Administrative Expenses Ratio =** $$\frac{\textbf{Administrative Expenses}}{\textbf{Net Sales}} \times 100$$

16. **Financial Expenses Ratio =** $$\frac{\textbf{Financial Expenses}}{\textbf{Net Sales}} \times 100$$

17. **Selling & Distribution Ratio =** $$\frac{\textbf{Selling \& Distribution}}{\textbf{Net Sales}} \times 100$$

18. **Non-Operating Expenses Ratio =** $$\frac{\textbf{Non-Operating Expenses}}{\textbf{Net Sales}} \times 100$$

19. **Non-operating Income Ratio =** $$\frac{\textbf{Non-operating Income}}{\textbf{Sales}} \times 100$$