

Chapter wise Test (2006)
Ratio Analysis

Instructions

- All questions are compulsory.
- Test Duration will be 40 Minutes, starting from 11:00 AM to 11:40 AM
- 5 minutes reading time will be provided before 11, i.e. question paper will be shared by 10:55 AM.
- Share your scanned answer sheets by 11:45 on below link
<https://forms.gle/wLRZWiTvMELNpCeC6>

1. [7 Marks] Following figures are available in the books Tirupati Ltd.

Fixed assets turnover ratio	8 times
Capital turnover ratio	2 times
Inventory Turnover	8 times
Receivable turnover	4 times
Payable turnover	6 times
G P Ratio	25%

Gross profit during the year amounts to ₹8,00,000. There is no long-term loan or overdraft. Reserve and surplus amount to ₹2,00,000. Ending inventory of the year is ₹20,000 above the beginning inventory.

Required:

CALCULATE various assets and liabilities and PREPARE a Balance sheet of Tirupati Ltd.

Solution

(a)
$$\text{G.P. ratio} = \frac{\text{Gross Profit}}{\text{Sales}} = 25\%$$

$$\text{Sales} = \frac{\text{Gross Profit}}{25} \times 100 = \frac{₹8,00,000}{25} \times 100 = ₹32,00,000$$

(b)
$$\begin{aligned} \text{Cost of Sales} &= \text{Sales} - \text{Gross profit} \\ &= ₹32,00,000 - ₹8,00,000 \\ &= ₹24,00,000 \end{aligned}$$

(c)
$$\text{Receivable turnover} = \frac{\text{Sales}}{\text{Receivables}} = 4$$

$$= \text{Receivables} = \frac{\text{Sales}}{4} = \frac{\text{₹}32,00,000}{4} = \text{₹}8,00,000$$

(d) Fixed assets turnover = $\frac{\text{Cost of Sales}}{\text{Fixed Assets}} = 8$

Fixed assets = $\frac{\text{Cost of Sales}}{8} = \frac{\text{₹}24,00,000}{8} = \text{₹}3,00,000$

(e) Inventory turnover = $\frac{\text{Cost of Sales}}{\text{Average Stock}} = 8$

Average Stock = $\frac{\text{Cost of Sales}}{8} = \frac{\text{₹}24,00,000}{8} = \text{₹}3,00,000$

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

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

Average Stock = Opening Stock + ₹ 10,000

Opening Stock = Average Stock - ₹ 10,000

= ₹ 3,00,000 - ₹ 10,000

= ₹ 2,90,000

Closing Stock = Opening Stock + ₹ 20,000

= ₹ 2,90,000 + ₹ 20,000

= ₹ 3,10,000

(f) Payable turnover = $\frac{\text{Purchases}}{\text{Payables}} = 6$

Purchases = Cost of Sales + Increase in Stock

= ₹ 24,00,000 + ₹ 20,000

= ₹ 24,20,000

Payables = $\frac{\text{Purchase}}{6} = \frac{\text{₹}24,20,000}{6} = \text{₹}4,03,333$

(g) Capital turnover = $\frac{\text{Cost of Sales}}{\text{Capital Employed}} = 2$

$$\text{Capital Employed} = \frac{\text{Cost of Sales}}{2} = \frac{\text{₹ 24,00,000}}{2} = \text{₹ 12,00,000}$$

$$\begin{aligned} \text{(h) Share Capital} &= \text{Capital Employed} - \text{Reserves \& Surplus} \\ &= \text{₹ 12,00,000} - \text{₹ 2,00,000} = \text{₹ 10,00,000} \end{aligned}$$

Balance Sheet of Tirupati Ltd as on.....

Liabilities	Amount (₹)	Assets	Amount (₹)
Share Capital	10,00,000	Fixed Assets	3,00,000
Reserve & Surplus	2,00,000	Closing Inventories	3,10,000
Payables	4,03,333	Receivables	8,00,000
		Other Current Assets	1,93,333
	16,03,333		16,03,333

(Fixed Asset turnover, inventory turnover capital turnover is calculated on cost of sales)

2. [10 Marks] Following are the data in respect of LP enterprises for the year ended 31st March, 2024:

Debt to Total assets ratio	: 0.40
Long-term debts to equity ratio	: 30%
Gross profit margin on sales	: 20%
Accounts receivables period	: 36 days
Quick ratio	: 0.9
Inventory holding period	: 60 days
Cost of goods sold	: 64,00,000

Liabilities	Amount	Assets	Amount
Equity Share Capital	20,00,000	Fixed assets	
Reserves & surplus		Inventories	
Long-term debts		Accounts receivable	
Accounts payable		Cash	
Total	50,00,000	Total	

Required:

COMPLETE the Balance Sheet of LP enterprises as on 31st March, 2024. All calculations should be in nearest Rupee. Assume 360 days in a year.

Solution

Working Notes:

(1) Total liability = Total Assets = ₹ 50,00,000

Debt to Total Asset Ratio = 0.40

$\frac{\text{Debt}}{\text{Total Assets}} = 0.40$

$\frac{\text{Debt}}{50,00,000} = 0.40$

So, Debt = 20,00,000

(2) Total Liabilities = ₹ 50,00,000

Equity share Capital + Reserves + Debt = ₹ 50,00,000

So, Reserves = ₹ 50,00,000 - ₹ 20,00,000 - ₹ 20,00,000

So, Reserves & Surplus = ₹ 10,00,000

(3) $\frac{\text{Long term Debt}}{\text{Equity Shareholders' Fund}} = 30\%$

$\frac{\text{Long term Debt}}{(20,00,000 + 10,00,000)} = 30\%$

Long Term Debt = ₹ 9,00,000

(4) So, Accounts Payable = ₹ 20,00,000 - ₹ 9,00,000

Accounts Payable = ₹ 11,00,000

(5) Gross Profit to sales = 20%

Cost of Goods Sold = 80% of Sales = ₹ 64,00,000

Sales = $\frac{100}{80} \times 64,00,000 = 80,00,000$

(6) Inventory Turnover = $\frac{360}{60}$

$\frac{\text{COGS}}{\text{Closing inventory}} = \frac{360}{60}$

$\frac{64,00,000}{\text{Closing inventory}} = \frac{360}{60}$

Closing inventory = 10,66,667

(7) Accounts Receivable period = 36 days

$\frac{\text{Accounts Receivable}}{\text{Credit sales}} \times 360 = 36$

Accounts Receivable = $\frac{36}{360} \times \text{credit sales}$

= $\frac{36}{360} \times 80,00,000$ (assumed all sales are on credit)

- (8) Quick Ratio = 0.9
- $$\frac{\text{Quick Assets}}{\text{Current liabilities}} = 0.9$$
- $$\frac{\text{Cash + Debtors}}{11,00,000} = 0.9$$
- Cash + 8,00,000 = ₹ 9,90,000
- Cash = ₹ 1,90,000**
- (9) Fixed Assets = Total Assets - Current Assets = 50,00,000 –
(10,66,667 + 8,00,000 + 1,90,000)
- (10) = **29,43,333**

Balance Sheet of LP enterprises as on 31st March 2024

Liabilities	(₹)	Assets	(₹)
Share Capital	20,00,000	Fixed Assets	29,43,333
Reserved surplus	10,00,000	Current Assets:	
Long Term Debt	9,00,000	Inventory	10,66,667
Accounts Payable	11,00,000	Accounts Receivables	8,00,000
		Cash	1,90,000
Total	50,00,000	Total	50,00,000

(*Note: Equity shareholders' fund represent equity in 'Long term debts to equity ratio'. The question can be solved assuming only share capital as 'equity')

3. [8 Marks] The following information of ASD Ltd. relate to the year ended 31st March, 2022:

Net profit	8% of sales
Raw materials consumed	20% of Cost of Goods Sold
Direct wages	10% of Cost of Goods Sold
Stock of raw materials	3 months' usage
Stock of finished goods	6% of Cost of Goods Sold
Gross Profit	15% of Sales
Debt collection period	2 Months
(All sales are on credit)	

Current ratio	2 : 1
Fixed assets to Current assets	13 : 11
Fixed assets to sales	1 : 3
Long-term loans to Current liabilities	2 : 1
Capital to Reserves and Surplus	1 : 4

You are required to PREPARE-

- a. Profit & Loss Statement of ASD Limited for the year ended 31st March, 2022 in the following format.

Particulars	(₹)	Particulars	(₹)
To Direct Materials consumed	?	By Sales	?
To Direct Wages	?		
To Works (Overhead)	?		
To Gross Profit c/d	?		
	?		?
To Selling and Distribution Expenses	?	By Gross Profit b/d	?
To Net Profit	?		
	?		?

Balance Sheet as on 31st March, 2022 in the following format.

Liabilities	(₹)	Assets	(₹)
Share Capital	?	Fixed Assets	1,30,00,000
Reserves and Surplus	?	Current Assets:	
Long term loans	?	Stock of Raw Material	?
Current liabilities	?	Stock of Finished Goods	?
		Debtors	?
		Cash	?
	?		?

Solution

Working Notes:

- (i) Calculation of Sales

$$\frac{\text{Fixed Assets}}{\text{Sales}} = \frac{1}{3}$$

$$\therefore \frac{1,30,00,000}{\text{Sales}} = \frac{1}{3} \Rightarrow \text{Sales} = ₹ 3,90,00,000$$

- (ii) Calculation of Current Assets

$$\frac{\text{Fixed Assets}}{\text{Current Assets}} = \frac{13}{11}$$

$$\therefore \frac{1,30,00,000}{\text{Current Assets}} = \frac{13}{11} \Rightarrow \text{Current Assets} = ₹ 1,10,00,000$$

(iii) Calculation of Raw Material Consumption and Direct Wages

	₹
Sales	3,90,00,000
Less: Gross Profit (15 % of Sales)	<u>58,50,000</u>
Cost of Goods sold	<u>3,31,50,000</u>

Raw Material Consumption (20% of Cost of Goods Sold) ₹ 66,30,000

Direct Wages (10% of Cost of Goods Sold) ₹ 33,15,000

(iv) Calculation of Stock of Raw Materials (= 3 months usage)

$$= 66,30,000 \times \frac{3}{12} = ₹ 16,57,500$$

(v) Calculation of Stock of Finished Goods (= 6% of Cost of Goods Sold)

$$= 3,31,50,000 \times \frac{6}{100} = ₹ 19,89,000$$

(vi) Calculation of Current Liabilities

$$\frac{\text{Current Assets}}{\text{Current Liabilities}} = 2$$

$$\frac{1,10,00,000}{\text{Current Liabilities}} = 2 \Rightarrow \text{Current Liabilities} = ₹ 55,00,000$$

(vii) Calculation of Debtors

$$\text{Average collection period} = \frac{\text{Debtors}}{\text{Credit Sales}} \times 12 \text{ months}$$

$$\frac{\text{Debtors}}{3,90,00,000} \times 12 = 2 \Rightarrow \text{Debtors} = ₹ 65,00,000$$

(viii) Calculation of Long-term Loan

$$\frac{\text{Long term Loan}}{\text{Current Liabilities}} = \frac{2}{1}$$

$$\frac{\text{Long term loan}}{55,00,000} = \frac{2}{1} \Rightarrow \text{Long term loan} = ₹ 1,10,00,000$$

(ix) Calculation of Cash Balance

	₹
Current assets	1,10,00,000
Less: Debtors	65,00,000
Raw materials stock	16,57,500
Finished goods stock	<u>19,89,000</u>
Cash balance	<u>8,53,500</u>

(x) Calculation of Net worth

Fixed Assets		1,30,00,000
Current Assets		<u>1,10,00,000</u>
Total Assets		2,40,00,000
Less: Long term Loan	1,10,00,000	
Current Liabilities	<u>55,00,000</u>	<u>1,65,00,000</u>
Net worth		75,00,000

Net worth = Share capital + Reserves = ₹ 75,00,000

$$\frac{\text{Capital}}{\text{Reserves and Surplus}} = \frac{1}{4} \Rightarrow \text{Share Capital} = ₹ 75,00,000 \times \frac{1}{5} = ₹ 15,00,000$$

$$\text{Reserves and Surplus} = ₹ 75,00,000 \times \frac{4}{5} = ₹ 60,00,000$$

**Profit and Loss Statement of ASD Ltd.
for the year ended 31st March, 2022**

Particulars	(₹)	Particulars	(₹)
To Direct Materials consumed	66,30,000	By Sales	3,90,00,000
To Direct Wages	33,15,000		
To Works (Overhead) (Bal. fig.)	2,32,05,000		
To Gross Profit c/d (15% of Sales)	58,50,000		
	<u>3,90,00,000</u>		<u>3,90,00,000</u>
To Selling and Distribution Expenses (Bal. fig.)	27,30,000	By Gross Profit b/d	58,50,000
To Net Profit (8% of Sales)	31,20,000		
	<u>58,50,000</u>		<u>58,50,000</u>

**Balance Sheet of ASD Ltd.
as at 31st March, 2022**

Liabilities	(₹)	Assets	(₹)
Share Capital	15,00,000	Fixed Assets	1,30,00,000
Reserves and Surplus	60,00,000	Current Assets:	
Long term loans	1,10,00,000	Stock of Raw Material	16,57,500
Current liabilities	55,00,000	Stock of Finished Goods	19,89,000
		Debtors	65,00,000
		Cash	8,53,500
	<u>2,40,00,000</u>		<u>2,40,00,000</u>