

UDHNA COLLEGE

ADVANCED ACCOUNTING & AUDITING -6 (TYBCOM SEM-5)

RATIO ANALYSIS (PRACTICE QUESTION-1)

SOLUTION

ANS 1.	<p>Gross Profit = 30% of 10,00,000 = Rs 3,00,000 COGS = Sales – GP = 10,00,000 – 3,00,000 = Rs 7,00,000 Now, Inventory Turnover Ratio = $\frac{\text{COGS}}{\text{Average Stock}}$ $7 = \frac{7,00,000}{\text{Average Stock}}$ Therefore, Average Stock = $\frac{7,00,000}{7} = \text{Rs } 1,00,000$</p> <p>1) Inventory = Rs 1,00,000</p> <p>2) Acid-Test Ratio = $\frac{\text{Liquid Assets}}{\text{Current Liabilities}}$ $0.75 = \frac{\text{Liquid Assets}}{2,00,000}$ $0.75 * 2,00,000 = \text{Liquid Assets}$ Liquid Assets = Rs 1,50,000</p> <p>3) Current Assets = $\text{Liquid Assets} + \text{Stock}$ $= 1,50,000 + 1,00,000$ $= \text{Rs } 2,50,000$ Current Ratio = $\frac{\text{Current Assets}}{\text{Current Liabilities}}$ $= \frac{2,50,000}{2,00,000}$ $= 1.25 : 1 =$</p>
ANS 2.	<p>$\text{Operating Ratio} = \frac{\text{Operating Cost}}{\text{Net Sales}} \times 100$</p> <p>Let the Sales = Rs 100 Therefore, COGS = Rs 60 GP = Rs 40 Operating Cost = 80% of Rs 100 = Rs 80 Now, Operating Cost = $\text{COGS} + \text{Operating Expense}$ $80 = 60 + \text{operating expense}$ Operating expense = Rs 20</p> <p>Now , When Sales 100 operating exp Rs 20 Sales ? when operating exp 2,40,000</p> <p>Sales = $(2,40,000 * 100) / 20$ $= 12,00,000 \text{ Rs.}$</p>

	<p>Now GP= 40 % of Sales (12,00,000) = 4,80,000 Rs.</p>	
ANS 3.	<p>Net Profit (before interest & tax) = Rs 24,00,000 Less: Interest on debenture = (Rs 2,00,000) Profit After interest before tax = Rs 22,00,000 Less : Tax 50 % = (Rs 11,00,000) Profit After Tax = Rs 11,00,000 Now, Net Profit Ratio = [NP (After Tax) / Sales] * 100 = [11,00,000 / 27,50,000] * 100 = 40 %</p>	
ANS 4	Proprietary Ratio	$\frac{\text{Owner's Fund}}{\text{Total Real Assets}} * 100$ $\frac{3060000}{4980000} * 100$ <p>61.45%</p>
ANS 5.	<p>Operating Ratio=</p> <p>90</p> <p>90 / 100</p> <p>0.9X</p> <p>0.2X</p> <p>X</p> <p>X = Sales</p> <p>COGS (70%)</p>	$\frac{\text{COGS} + \text{Operating Exp}}{\text{Sales}} * 100$ <p>Suppose Sales X, COGS 0.7X</p> $\frac{0.7X + 1536000}{X}$ <p>0.7X + 1536000</p> <p>1536000</p> <p>1536000/ 0.2</p> <p>7680000</p> <p>5376000</p>
ANS 6.	<p>Cash Sale = 1,20,000 Rs Credit Sale = 1,20,000 / 20 % = Rs 6,00,000 Total Sale = 1,20,000 + 6,00,000 = Rs 7,20,000 1) Gross Profit Ratio = (GP / Sales) * 100 = (1,80,000 / 7,20,000) * 100 = 25%</p> <p>Net Profit (before int & tax) = Gross profit - Admin exp - Sales Exp = 1,80,000 - 30,000 - 20,000 = Rs 1,30,000</p>	

Less : Int on Debentures = (Rs 10,000)
 Net Profit (after int & before tax) = Rs 1,20,000
 Less : Tax 35% = (Rs 42,000)
 Net Profit (after tax) = Rs 78,000

2) Net Profit Ratio = $[\text{NP}(\text{after tax}) / \text{Sales}] * 100$
 $= (78,000 / 7,20,000) * 100$
 $= 10.83 \%$

- COGS = SALES – GP
 $= 7,20,000 – 1,80,000$
 $= \text{Rs } 5,40,000$

- Average Stock = $(\text{Opening Stock} + \text{Closing Stock}) / 2$
 $= (60,000 + 1,20,000) / 2$
 $= \text{Rs } 90,000$

3) Stock Ratio = $\text{COGS} / \text{Average Stock}$
 $= 5,40,000 / 90,000$
 $= 6 \text{ times}$

- Operating Expense = Admin Exp + Selling Exp
 $= 30,000 + 20,000$
 $= \text{Rs } 50,000$

4) Operating Ratio = $[(\text{COGS} + \text{Operating Exp}) / \text{Sales}] * 100$
 $= [(5,40,000 + 50,000) / 7,20,000] * 100$
 $= 81.94\%$

- Capital Employed = ESC + PSC + Reserves + Non Current Liabilities – fictitious assets
 $= 4,00,000 + 1,00,000 + 1,50,000 + 1,00,000 – 10,000$
 $= \text{Rs } 7,40,000$

5) Return on capital employed = $[\text{Net Profit (before int \& tax)} / \text{Capital Employed}] * 100$
 $= [1,30,000 / 7,40,000] * 100$
 $= 17.57 \%$

- Current Assets = $1,20,000 + 60,000 + 25,000 + 60,000 + 40,000$
 $= \text{Rs } 3,05,000$

- Current Liabilities = $80,000 + 20,000 + 15,000$
 $= \text{Rs } 1,15,000$

6) Current Ratio = $\text{Current Assets} / \text{Current Liabilities}$
 $= 3,05,000 / 1,15,000$
 $= 2.65:1$

7) Debtors Ratio = $[(\text{Debtors} + \text{Bills Receivable}) / \text{Credit sales}] * 360$
 $= [(60,000 + 25,000) / 6,00,000] * 360$
 $= 51 \text{ Days}$

ANS 7.

Credit Sale = Rs 12,48,000

Total Sale = 12,48,000 / 60 %
= Rs 20,80,000

*Adjusted Purchase(COGS) = Op stock + Purchase – Closing Stock

12,48,000 = 1,49,600 + Purchase – 1,00,000

12,48,000 – 1,49,600 + 1,00,000 = Purchase

Purchase = Rs 11,98,400

Gross Profit = Sales – COGS

= 20,80,000 – 12,48,000

= Rs 8,32,000

• Net Profit (before int & tax)	10,40,000
Less : Int on Debentures	(60,000)
Net Profit (after int & before tax)	9,80,000
Less : Tax 50%	(4,90,000)
Net Profit (after tax)	4,90,000

1) Gross Profit Ratio = (GP / Sales) * 100
= (8,32,000/20,80,000)*100
= 40%

2) Net Profit Ratio = [NP(after tax) / Sales] * 100
= [4,90,000/20,80,000]*100
= 23.56%

• Liquid Assets = Debtors + B/R + Cash Bank
= 2,82,400 + 92,000 + 4,25,600
= Rs 8,00,000

• Liquid Liabilities = Creditors + B/P + Outstanding Expenses
= 2,80,000 + 80,000 + 40,000
= Rs 4,00,000

3) Liquidity Ratio = Liquid Assets / Liquid Liabilities
= 8,00,000/4,00,000
= 2:1

• Operating Expenses = Admin exp + Sales-Distribution exp
= 2,40,000 + 16,000
= Rs 2,56,000

4) Operating Ratio = [(COGS + Operating Exp)/ Sales] * 100
= [(12,48,000 + 2,56,000)/20,80,000]*100
= 72.31 %

5) Debtors Ratio = [(Debtors + Bills Receivable)/ Credit sales] * 360
= [(2,82,400+92,000)/12,48,000]*360
=108 days

• Average Stock = (Opening Stock + Closing Stock) /2
= (1,49,600 + 1,00,000)/2
= Rs 1,24,800

6) Stock Ratio = COGS / Average Stock
= 12,48,000 / 1,24,800
= 10 times

- Capital Employed = ESC + PSC + Reserves + Non Current Liabilities – fictitious assets
 $= 12,00,000 + 8,00,000 + 2,00,000 + 4,00,000 + 5,20,000 - 5,20,000$
 $= \text{Rs } 26,00,000$
- 7) Return on capital employed = $[\text{Net Profit (before int \& tax)} / \text{Capital Employed}] * 100$
 $= [10,40,000 / 26,00,000] * 100$
 $= 40\%$

ANS 8

CURRENT ASSETS:		Rs
STOCK		1,20,000
CUSTOMER		1,44,000
BILLS RECEIVABLE		16,000
TOTAL CURRENT ASSETS		2,80,000
CURRENT LIABILITIES		
MERCHANT		72,000
BILLS PAYABLE		18,000
BANK OVERDRAFT		45,000
TOTAL CURRENT LIABILITIES		1,35,000

- 1) Current Ratio = $\text{Current Assets} / \text{Current Liabilities}$
 $= 2,80,000 / 1,35,000$
 $= 2.07:1$
- Credit Sales = 75% of 13,50,000
 $= \text{Rs } 10,12,500$
- 2) Debtors Ratio = $[(\text{Debtors} + \text{Bills Receivable}) / \text{Credit sales}] * 360$
 $= [(1,44,000 + 16,000) / 10,12,500] * 360$
 $= 56.89 \quad 57 \text{ days (approx)}$
- 3) Capital Gearing Ratio = $[(\text{PSC} + \text{DEBENTURE}) / \text{ESC}] * 100$
 $= [(2,25,000 + 2,70,000) / 4,50,000] * 100$
 $= 110\%$

ANS 9

1. Current Ratio	Current Assets/ Current Liabilities $107,50,000 / 85,62,500$ 1.26:1
2. Liquid Ratio	Liquid Assets/ Liquid Liabilities $\text{Current Assets} - \text{Stock} - \text{Prepaid Exp} /$ $\text{Current Liabilities} - \text{BOD}$ $107,50,000 - 25,00,000 / 85,62,500 - 25,00,000$

	1.36:1
Owner's Fund =	Share Capital + Reserves – fictitious Assets 6250,000 + 6250,000 + 9375,000 + 1250,000 – 625000
Total Real Assets =	Total of Balance sheet – Fictitious Assets 3,54,37,500 - 625000
3. Proprietary Ratio	$\frac{\text{Owner's Fund}}{\text{Total Real Assets}} * 100$ $\frac{2,25,00,000}{3,48,12,500} * 100$ 64.63%
4. Debt Equity Ratio =	$\frac{\text{Long Term Debt}}{\text{Share holders fund}} * 100$ $3750000 / 2,25,00,000 * 100$ 16.67%
5. Gearing Ratio =	$\frac{\text{Pref.Capital + Debenture + Public Deposit}}{\text{Equity share Capital}}$ $\frac{62,50,000 + 25,00,000 + 12,50,000}{62,50,000}$ 1.6:1
Long term Fund =	Share Capital + Reserves + Long term Debt – fictitious Assets 6250,000 + 6250,000 + 9375,000 + 1250,000 + 2500000 + 1250000 – 625000
6. Long term fund to fixed assets =	$\frac{\text{Long term funds}}{\text{Fixed Assets}} * 100$ $2,62,50,000 * 100 / 2,40,62,500$ 109.09%
7. Debtor Ratio	$\frac{\text{Debtor + Bills Receivable}}{\text{Credit Sales}} * 360$

	<p>Suppose Credit sales 100 So cash sales 20 Total Sales 120 Total sales credit sales 120 100 18750000 (?) = 15625000</p> <p>$\frac{4375000 + 1875000}{15625000} * 365$</p> <p>146 Days</p>
--	--

ANS 10	Office – sales exp / sales * 100	Office – sales exp / sales * 100
	10	Office – sales exp / 8000000 * 100
	10 * 8000000 / 100	Office – sales exp
	Office – sales exp =	800000
	Operating Ratio =	$\frac{\text{COGS} + \text{Operating Exp}}{\text{Sales}} * 100$
	70	$\frac{\text{COGS} + 800000}{8000000} * 100$
	70 * 8000000 / 100	COGS + 800000
	5600000	COGS + 800000
	5600000 – 800000	COGS
	COGS	4800000
Gross Profit =	Sales – COGS 8000000 – 4800000 3200000	
1. Gross Profit Ratio =	$\frac{\text{Gross Profit} * 100}{\text{Sales}}$ 3200000 * 100 / 8000000 40%	
Gross Profit	3200000	
- Interest on Deb	120000	
- Interest on Public deposit	90000	
- Office – sales exp	<u>800000</u>	
	2190000	
Tax (40%)	<u>876000</u>	
Net Profit	1314000	
Equity shareholder's funds =	Equity share capital + Reserves – fictitious Assets 5000000 + 1400000 – 200000	

	6200000
2. Rate of Return on Equity shareholder's funds=	$\frac{\text{Net Profit} - \text{Pref Div.}}{\text{Equity shareholder's fund}} * 100$ $\frac{1314000 - 150000}{6200000} * 100$ <p>18.77%</p>
3. Current Ratio =	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$ $2000000/800000$ <p>2.5:1</p>
4. Debtor Ratio=	$\frac{\text{Debtor} + \text{Bills Receivable}}{\text{Credit Sales}} * 360$ $\frac{190000 + 30000}{6000000} * 360$ <p>13.2 days</p>
Avg Stock	$\frac{\text{Op stock} + \text{Closing Stock}}{2}$ $(650000 - 400000) + 650000 / 2$ <p>450000</p>
5. Stock turnover ratio =	$\frac{\text{COGS}}{\text{Avg. Stock}}$ $\frac{4800000}{450000}$ <p>10.67 times</p>
6. Net Profit Ratio =	$\frac{\text{Net Profit}}{\text{Sales}} * 100$ $\frac{1314000}{8000000} * 100$ <p>16.43%</p>
7. Debt Equity Ratio	$\frac{\text{Long Term Debt}}{\text{Share holders fund}} * 100$ $1900000/ 7200000 * 100$

	26.39%
--	--------

ANS 11	<p>Suppose closing stock 100 Opening stock 25 Opening stock closing stock 25 100 128000 (?)</p> <p>Closing stock 512000</p>
Avg Stock	$\frac{\text{Op stock} + \text{Closing Stock}}{2}$ $128000 + 512000 / 2$ 320000
Stock turnover ratio =	$\frac{\text{COGS}}{\text{Avg. Stock}}$
7.25	$\frac{\text{COGS}}{320000}$
COGS =	$320000 * 7.25$ 2320000
Gross Profit	$\text{Sales} - \text{COGS}$ $3600000 - 2320000$ 1280000
1. Gross Profit Ratio	$\frac{\text{Gross Profit} * 100}{\text{Sales}}$
	$1280000 / 3600000 * 100$ 35.56%
2. Debtor Ratio	$\frac{\text{Debtor} + \text{Bills Receivable} * 360}{\text{Credit Sales}}$
	$\frac{360000 + 24000 * 360}{2700000}$ 51.2 Days
Gross Profit	1280000
- Interest on Deb	72000
- Operating exp (?)	<u>728000</u>

	Tax (50%) Net Profit	480000 <u>240000</u> 240000
	3. Operating Ratio	$\frac{\text{COGS} + \text{Operating Exp}}{\text{Sales}} * 100$ $\frac{2320000 + 728000}{3600000} * 100$ 84.67%
	Equity share capital fund =	Equity share capital + Reserve – fictitious Assets 1200000 + 216000 – 20000 1396000
	4. Rate of return on equity capital funds =	$\frac{\text{Net Profit} - \text{Preference dividend}}{\text{Equity share capital fund}} * 100$ $\frac{240000 - 40000}{1396000} * 100$ 14.33%
	Rate of earn per share	$\frac{\text{Net Profit} - \text{Preference dividend}}{\text{Equity share capital}}$ $\frac{240000 - 40000}{12000}$ Rs.16.67
	5. Gearing Ratio	$\frac{\text{Pref. Capital} + \text{Debenture}}{\text{Equity share Capital}}$ $\frac{400000 + 720000}{1200000}$ 0.93:1
	Capital Employed =	Share capital + Reserve + Long term Debt – fictitious Assets 1600000 + 216000 + 720000 – 20000 2516000
	6. Return on Capital Employed	$\frac{\text{Profit before Interest \& Tax}}{\text{Capital Employed}} * 100$ $\frac{552000}{2516000} * 100$

		2516000	
		21.94%	
	7. Interest Coverage Ratio	<u>Profit before Interest & Tax</u> Interest	
		552000/ 72000	
		7.67 times	