UNIT 9

RATIO ANALYSIS

I. Choose the correct answer :

1. The mathematical expression that provides a measure of the relationship between two figures is called

   (a) Conclusion (b) Ratio

   (c) Model (d) Decision

2. Current ratio indicates

   (a) Ability to meet short term obligations (b) Efficiency of management

   (c) Profitability (d) Long term solvency

3. Current assets excluding inventory and prepaid expenses is called

   (a) Reserves (b) Tangible assets

   (c) Funds (d) Quick assets

4. Debt equity ratio is a measure of

   (a) Short term solvency (b) Long term solvency

   (c) Profitability (d) Efficiency

5. Match List I with List II and select the correct answer using the codes given below:

List I	List II
(i) Current ratio	1. Liquidity
(ii) Net profit ratio	2. Efficiency
(iii) Debt-equity ratio	3. Long term solvency
(iv) Inventory turnover ratio	4. Profitability

Codes:

	(i)	(ii)	(iii)	(iv)
(a)	1	4	3	2
(b)	3	2	4	1
(c)	4	3	2	1
(d)	1	2	3	4

6. To test the liquidity of a concern, which of the following ratios are useful?

   (i) Quick ratio

(ii) Net profit ratio

(iii) Debt-equity ratio

(iv) Current ratio

Select the correct answer using the codes given below:

(a) (i) and (ii) (b) (i) and (iv)

(c) (ii) and (iii) (d) (ii) and (iv)

7. Proportion of share holders' funds to total assets is called

(a) Proprietary ratio (b) Capital gearing ratio

(c) Debt equity ratio (d) Current ratio

8. Which one of the following is not correctly matched?

(a) Liquid ratio – Proportion

(b) Gross profit ratio – Percentage

(c) Fixed assets turnover ratio – Percentage

(d) Debt-equity ratio – Proportion

9. Current liabilities ₹ 40,000; Current assets ₹ 1,00,000 ; Inventory ₹ 20,000 . Quick ratio is

(a) 1:1 (b) 2.5:1

(c) 2:1 (d) 1:2

10. Cost of revenue from operations ₹ 3,00,000; Inventory in the beginning of the year ₹ 60,000; Inventory at the close of the year ₹ 40,000. Inventory turnover ratio is

(a) 2 times (b) 3 times

(c) 6 times (d) 8 times

Answers:

1. (b) 2. (a) 3. (d) 4. (b) 5. (a) 6. (b) 7.(a) 8. (c) 9. (c) 10.(c)

II. Very short answer questions :

1. What is meant by accounting ratios ?

i. Ratio is a mathematical expression of relationship between two related or interdependent items.

ii. It is calculated by dividing one item by the other related item. When ratios are calculated on the basis of accounting information, these are called ‘accounting ratios’.

2. What is quick ratio ?

i. Quick ratio gives the proportion of quick assets to current liabilities. It indicates whether the business concern is in a position to pay its current liabilities as and when they become due, out of its quick assets

ii. Quick assets are current assets excluding inventories and prepaid expenses. It is otherwise called liquid ratio or acid test ratio. It is calculated as follows:

$$\text{Quick ratio} = \frac{\text{Quick assets}}{\text{Current liabilities}}$$

3. What is meant by debt equity ratio ?

   i. Debt equity ratio is calculated to assess the long term solvency position of a business concern. Debt equity ratio expresses the relationship between long term debt and shareholders' funds.

   ii. It is computed as follows: $\text{Debt equity ratio} = \frac{\text{Long term debt}}{\text{Shareholder's fund}}$

4. What does return on investment ratio indicate ?

   i. Return on investment shows the proportion of net profit before interest and tax to capital employed (shareholders' funds and long term debts)

   ii. It is an overall measure of profitability of a business concern. It is computed as below:

$$\text{Return on investment (ROI)} = \frac{\text{Net profit before interest and tax}}{\text{Capital employed}} \times 100$$

5. State two limitations of ratio analysis.

   i. **Ratios are only means** – Ratios are not the end in themselves but they are only means to achieve a particular purpose.

   ii. **Accuracy of financial information –** The accuracy of a ratio depends on the accuracy of information taken from financial statements.

III. Short answer questions :

1. Explain the objectives of ratio analysis.

   Following are the objectives of ratio analysis:

   (i) To simplify accounting figures

   (ii) To facilitate analysis of financial statements

   (iii) To analyse the operational efficiency of a business

   (iv) To help in budgeting and forecasting

   (v) To facilitate intra firm and inter firm comparison of performance

2. What is inventory conversion period ? How to calculate it ?

   i. Inventory conversion period is the time taken to sell the inventory.

ii. A shorter inventory conversion period indicates more efficiency in the management of inventory.

iii. It is computed as follows:

$$\text{Inventory conversion period (in days)} = \frac{\text{Number of days in a year}}{\text{Inventory turnover ratio}}$$

$$\text{Inventory conversion period (in months)} = \frac{\text{Number of months in a year}}{\text{Inventory turnover ratio}}$$

3. How is operating profit ascertained ?

i. Operating profit ratio gives the proportion of operating profit to revenue from operations. Operating profit ratio is an indicator of operational efficiency of an organisation.

ii. It may be computed as follows: $\frac{\text{Operating profit}}{\text{Revenue from operations}} \times 100$

iii. Alternatively, it is calculated as under.

Operating profit ratio = 100 – Operating cost ratio

Operating profit = Revenue from operations – Operating cost

iv. A higher ratio indicates better profitability. Greater the operating ratio, higher is the margin available for paying non-operating expenses.

4. State the three advantages of ratio analysis.

i. **Measuring operational efficiency –** Ratio analysis helps to know operational efficiency of a business by finding the relationship between operating cost and revenues and also by comparison of present ratios with those of the past ratios.

ii. **Facilitating investment decisions –** Ratio analysis helps the management in making effective decisions regarding profitable avenues of investment.

iii. **Analysing the profitability –** Ratio analysis helps to analyse the profitability of a business in terms of sales and investments.

5. Bring out the limitations of ratio analysis.

i. **Consistency in preparation of financial statements:** Inter firm comparisons with the help of ratio analysis will be meaningful only if the firms follow uniform accounting procedures consistently.

ii. **Non-availability of standards or norms:** Ratios will be meaningful only if they are compared with accepted standards or norms. Only few financial ratios have universally recognised standards. For other ratios, comparison with standards is not possible.

iii. **Change in price level**: Ratio analysis may not reflect price level changes and current values as they are calculated based on historical data given in financial statements.

IV. Exercises :

Liquidity ratios

1. Calculate the current ratio from the following information.

Particulars	₹	Particulars	₹
Current investments	40,000	Fixed assets	5,00,000
Inventories	2,00,000	Trade creditors	80,000
Trade debtors	1,20,000	Bills payable	50,000
Bills receivable	80,000	Expenses payable	20,000
Cash and cash equivalents	10,000	Non-current liability	3,00,000

Solution:

$$\text{Current ratio} = \frac{\text{Current assets}}{\text{Current liabilities}}$$

Current assets = Current investments + Inventories + Bills receivables + Trade debtors + Cash and cash equivalents

= 40,000 + 2,00,000 + 1,20,000 + 80,000 + 10,000

= ₹ 4,50,000

Current liabilities = Trade creditors + Bills payable + Expenses payable

= 80,000 + 50,000 + 20,000

= ₹1,50,000

$$\text{Current ratio} = \frac{4,50,000}{1,50,000} = \mathbf{3 : 1}$$

2. Calculate quick ratio: Total current liabilities ₹ 2,40,000; Total current assets ₹ 4,50,000; Inventories ₹ 70,000; Prepaid expenses ₹ 20,000

$$\text{Quick ratio} = \frac{\text{Quick assets}}{\text{Current liabilities}}$$

Quick assets = Current assets – Inventories – Prepaid expenses

= 4,50,000 - 70,000 - 20,000

= ₹ 3,60,000

Quick ratio $= \frac{3,60,000}{2,40,000} =$ **1.5 : 1**

3. Following is the balance sheet of Lakshmi Ltd. as on 31st March, 2019:

Particulars	₹
I Equity and liabilities	
1. Shareholder's funds	
Equity share capital	4,00,000
2. Non-current liabilities	
Long term borrowings	2,00,000
3. Current liabilities	
(a) Short-term borrowings	50,000
(b) Trade payables	3,10,000
(c) Other current liabilities	
Expenses payable	15,000
(d) Short-term provisions	25,000
Total	**10,00,000**
II Assets	
1. Non-current assets	
(a) Fixed assets	
Tangible assets	4,00,000
2. Current assets	
(a) Inventories	1,60,000
(b) Trade debtors	3,20,000
(c) Cash and cash equivalents	80,000
(d) Other current assets	
Prepaid expenses	40,000
Total	**10,00,000**

Calculate :

i. Current ratio ii. Quick ratio

Solution:

(i) Current ratio $= \frac{\text{Current assets}}{\text{Current liabilities}}$

Current assets = Inventories + Trade debtors + Cash and cash equivalents + Prepaid expenses

= 1,60,000 + 3,20,000 + 80,000 + 40,000

= ₹ 6,00,000

Current liabilities = Short term borrowings + Trade payable + Expenses payable + Short term provisions

= 50,000 + 3,10,000 + 15,000 + 25,000

= ₹4,00,000

Current ratio $= \frac{6,00,000}{4,00,000} =$ **1.5 : 1**

Quick ratio $= \frac{\text{Quick assets}}{\text{Current liabilities}}$

Quick assets = Current assets – Inventories – Prepaid expenses

= 6,00,000 – 1,60,000 - 40,000

= ₹ 4,00,000

Quick ratio $= \frac{4,00,000}{4,00,000} =$ **1 : 1**

Long term solvency ratios

4. From the following information calculate debt equity ratio.

Balance Sheet (Extract) as on 31st March, 2019

Particulars	₹
I Equity and liabilities	
1. Shareholder's funds	
(a) Share capital	
Equity share capital	6,00,000
(b) Reserves and surplus	2,00,000
2. Non-current liabilities	
Long term borrowings (Debentures)	6,00,000
3. Current liabilities	
(a) Trade payables	1,60,000
(b) Other current liabilities	
Outstanding expenses	40,000
Total	**16,00,000**

Solution:

Debt equity ratio $= \frac{\text{Long term debt}}{\text{Shareholder's funds}}$

Long term debt = Debentures = ₹ 6,00,000

Shareholder's funds = Equity share capital + Reserves and surplus

= 6,00,000 + 2,00,000

= ₹ 8,00,000

Debt equity ratio $= \frac{6,00,000}{8,00,000} =$ **0.75 : 1**

5. From the following Balance Sheet of Sundaram Ltd. calculate proprietary ratio:

Balance sheet of Sundaram Ltd. as on 31.3.2019

Particulars	₹
I Equity and liabilities	
1. Shareholder's funds	
(a) Share capital	
(i) Equity share capital	2,50,000
(ii) Preference share capital	1,50,000
(b) Reserves and surplus	50,000
2. Non-current liabilities	
Long term borrowings	-
3. Current liabilities	
Trade payables	1,50,000
Total	**6,00,000**
II Assets	
1. Non-current assets	
(a) Fixed assets	4,60,000
(b) Non-current investments	1,00,000
2. Current assets	
Cash and cash equivalents	40,000
Total	**6,00,000**

Solution:

Proprietary ratio $= \frac{\text{Shareholder's funds}}{\text{Total assets}}$

Shareholder's funds = Equity share capital + Preference share capital + Reserves and surplus

= 2,50,000 + 1,50,000 + 50,000

= ₹ 4,50,000

Total assets = ₹ 6,00,000

Proprietary ratio $= \frac{4,50,000}{6,00,000} =$ **0.75 : 1**

6. From the following information calculate capital gearing ratio:

Balance Sheet (Extract) as on 31.03.2018

Particulars	₹
I Equity and liabilities	
1. Shareholder's funds	
(a) Share capital	
Equity share capital	4,00,000
5% Preference share capital	1,00,000
(b) Reserves and surplus	
General reserve	2,50,000
Surplus	1,50,000
2. Non-current liabilities	
Long term borrowings (6% Debentures)	3,00,000
3. Current liabilities	
Trade payables	1,20,000
Provision for tax	30,000
Total	**13,50,000**

Solution:

Capital gearing ratio $= \frac{\text{Funds bearing fixed interest and fixed dividend}}{\text{Equity Shareholder's funds}}$

Funds bearing fixed interest and dividend = 6 % Debentures + 5% Preference share capital
= 1,00,000 + 3,00,000
= ₹ 4,00,000

Equity Shareholder's funds = Equity share capital + General reserves + Surplus
= 4,00,000 + 2,50,000 + 1,50,000
= ₹ 8,00,000

Capital gearing ratio $= \frac{4,00,000}{8,00,000} =$ **0.5 : 1**

7. From the following Balance Sheet of James Ltd. as on 31.03.2019 calculate

(i) Debt-equity ratio (ii) Proprietary ratio (iii) Capital gearing ratio

Balance Sheet of James Ltd. as on 31.03.201

Particulars	₹
I Equity and liabilities	
1. Shareholder's funds	
(a) Share capital	
Equity share capital	2,50,000
6% Preference share capital	2,00,000
(b) Reserves and surplus	1,50,000
2. Non-current liabilities	
Long term borrowings (8% debentures)	3,00,000
3. Current liabilities	
Short-term borrowings from banks	2,00,000
Trade payables	1,00,000
Total	**12,00,000**
II Assets	
1. Non-current assets	
Fixed assets	8,00,000
2. Current assets	
(a) Inventories	1,20,000
(b) Trade receivables	2,65,000
(c) Cash and cash equivalents	10,000
(d) Other current assets	
Expenses paid in advance	5,000
Total	**12,00,000**

Solution :

(i) Debt equity ratio $= \frac{\text{Long term debt}}{\text{Shareholder's funds}}$

Long term debt = Debentures = ₹ 3,00,000

Shareholder's funds = Equity share capital + Reserves and surplus + Preference share capital

= 2,50,000 + 1,50,000 + 2,00,000

= ₹ 6,00,000

Debt equity ratio $= \frac{3,00,000}{6,00,000} =$ **0.5 : 1**

(ii) Proprietary ratio $= \frac{\text{Shareholder's funds}}{\text{Total assets}}$

Shareholder's funds = ₹ 6,00,000

Total assets = ₹ 12,00,000

Proprietary ratio $= \frac{6,00,000}{12,00,000} =$ **0.5 : 1**

(iii) Capital gearing ratio $= \frac{\text{Funds bearing fixed interest and fixed dividend}}{\text{Equity Shareholder's funds}}$

Funds bearing fixed interest and dividend = 8 % Debentures + 6% Preference share capital

= 2,00,000 + 3,00,000

= ₹ 5,00,000

Equity Shareholder's funds = Equity share capital + General reserves and Surplus

= 2,50,000 + 1,50,000

= ₹ 4,00,000

Capital gearing ratio $= \frac{5,00,000}{4,00,000} =$ **1.25 : 1**

Turnover ratios :

8. From the given information calculate the inventory turnover ratio and inventory conversion period (in months) of Devi Ltd.

Particulars	₹
Revenue from operations	12,00,000
Inventory at the beginning of the year	1,70,000
Inventory at the end of the year	1,30,000
Purchases made during the year	6,90,000
Carriage inwards	20,000

Solution:

Inventory turnover ratio $= \frac{\text{Cost of revenue from operations}}{\text{Average inventory}}$

Cost of revenue from operations = Opening inventory + Net purchases + Direct expenses (carriage inwards) – Closing inventory

= 1,70,000 + 6,90,000 + 20,000 – 1,30,000

= ₹ 7,50,000

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

$= \frac{1,70,000 + 1,30,000}{2}$

= ₹ 1,50,000

Inventory turnover ratio $= \frac{7,50,000}{1,50,000} =$ **5 times**

Inventory conversion period (in months) $= \frac{\text{Number of months in a year}}{\text{Inventory turnover ratio}}$

$= \frac{12}{5} =$ **2.4 months**

9. The credit revenue from operations of Velavan Ltd, amounted to ₹ 10,00,000. Its debtors and bills receivables at the end of the accounting period amounted to ₹ 1,10,000 and ₹ 1,40,000 respectively. Calculate trade receivables turnover ratio and also collection period in months.

Solution:

Trade receivables turnover ratio $= \frac{\text{Credit revenue from operations}}{\text{Average trade receivables}}$

Trade receivables = Debtors + Bills receivable

= 1,10,000 + 1,40,000

= ₹ 2,50,000

Trade receivables turnover ratio $= \frac{10,00,000}{2,50,000} =$ **4 times**

Debt collection period (in months) $= \frac{\text{Number of months in a year}}{\text{Trade receivables turnover ratio}}$

$= \frac{12}{4} =$ **3 months**

10. From the following figures obtained from Arjun Ltd, calculate the trade payables turnover ratio and credit payment period (in days).

Particulars	₹

Credit purchases during 2018-19	9,50,000
Trade creditors as on 1.4.2018	60,000
Trade creditors as on 31.3.2019	50,000
Bills payable as on 1.4.2018	45,000
Bills payable as on 31.3.2019	35,000

Solution:

Trade payables turnover ratio $= \frac{\text{Net credit purchases}}{\text{Average trade payables}}$

Net credit purchases = ₹ 9,50,000

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

Trade payables = Trade creditors + Bills payables

$= \frac{(60,000+45,000)+(50,000+35,000)}{2}$

$= \frac{1,05,000+85,000}{2}$

= ₹ 95,000

Trade payables turnover ratio $= \frac{9,50,000}{95,000}$ = **10 times**

Credit payment period (in days) $= \frac{\text{Number of days in a year}}{\text{Trade payables turnover ratio}}$

$= \frac{365}{10}$ = **36.5 days**

11. From the following information of Geetha Ltd., calculate fixed assets turnover ratio

(i) Revenue from operations during the year were ₹ 55,00,000.

(ii) Fixed assets at the end of the year ₹ 5,00,000.

Solution:

Fixed assets turnover ratio $= \frac{\text{Revenue from operations}}{\text{Average fixed assets}}$

$= \frac{55,00,000}{5,00,000}$ = **11 times**

12. Calculate (i) Inventory turnover ratio (ii) Trade receivables turnover ratio (iii) Trade payables turnover ratio and (iv) Fixed assets turnover ratio from the following information obtained from Aruna Ltd.

Particulars	As on 31st March, 2018 ₹	As on 31st March, 2019 ₹
Inventory	3,60,000	4,40,000
Trade receivables	7,40,000	6,60,000
Trade payables	1,90,000	2,30,000
Fixed assets	6,00,000	8,00,000

Additional information:

(i) Revenue from operations for the year ₹ 35,00,000

(ii) Purchases for the year ₹ 21,00,000

(iii) Cost of revenue from operations ₹ 16,00,000.

Assume that sales and purchases are for credit.

Solution :

i. Inventory turnover ratio $= \frac{\text{Cost of revenue from operations}}{\text{Average inventory}}$

Cost of revenue from operations = ₹ 16,00,000

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

$= \frac{3,60,000 + 4,40,000}{2}$

= ₹ 4,00,000

Inventory turnover ratio $= \frac{16,00,000}{4,00,000} =$ **4 times**

ii. Trade receivables turnover ratio $= \frac{\text{Credit revenue from operations}}{\text{Average trade receivables}}$

Cost of revenue from operations = ₹ 35,00,000

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

Trade receivables = Trade debtors + Bills receivable

$= \frac{7,40,000 + 6,60,000}{2}$

= ₹ 7,00,000

Trade receivables turnover ratio $= \frac{35,00,000}{7,00,000} =$ **5 times**

iii. Trade payables turnover ratio $= \frac{\text{Net credit purchases}}{\text{Average trade payables}}$

Net credit purchases = ₹ 21,00,000

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

Trade payables = Trade creditors + Bills payables

$= \frac{1,90,000+2,30,000}{2}$

= ₹ 2,10,000

Trade payables turnover ratio $= \frac{21,00,000}{2,10,000}$ = **10 times**

iv. Fixed assets turnover ratio $= \frac{\text{Revenue from operations}}{\text{Average fixed assets}}$

Revenue from operations = ₹ 35,00,000

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

$= \frac{6,00,000+8,00,000}{2}$

= ₹ 7,00,000

Fixed assets turnover ratio $= \frac{35,00,000}{7,00,000}$ = **5 times**

Profitability ratios

13. Calculate gross profit ratio from the following:

Revenue from operations ₹ 2,50,000, Cost of revenue from operations ₹ 2,10,000 and Purchases ₹ 1,80,000.

Solution:

Gross profit ratio $= \frac{\text{Gross profit}}{\text{Revenue from operations}}$ x 100

Gross profit = Revenue from operations – Cost of revenue from operations

= 2,50,000 – 2,10,000

= ₹ 40,000

Gross profit ratio $= \frac{40,000}{2,50,000}$ x 100 = **16%**

14. Following is the statement of profit and loss of Padma Ltd. for the year ended 31st March, 2018. Calculate the operating cost ratio.

Statement of Profit and Loss

Particulars	Note no.	Amount ₹

I. Revenue from operations		15,00,000
II. Other income		40,000
III. Total revenue (I+II)		**15,40,000**
IV. Expenses :		
Purchases of stock-in-trade		8,60,000
Changes in inventories		40,000
Employee benefits expense (salaries)		1,60,000
Other expenses		1,70,000
Total expenses		12,30,000
V. Profit before tax (III-IV)		**3,10,000**

Notes to Accounts

Particulars	Amount ₹
1. Other expenses	
Office and administrative expenses	50,000
Selling and distribution expenses	90,000
Loss on sale of furniture	30,000
	1,70,000

Solution:

Operating cost ratio $= \frac{\text{Operating cost}}{\text{Revenue from operations}} \times 100$

Cost of revenue from operations = Purchases of stock-in-trade + Change in inventories of stock-in-trade + Direct expenses (wages)

= 8,60,000 + 40,000

= ₹ 9,00,000

Operating expenses = Administrative expenses + Selling and distribution expenses + Employee benefits expenses (salaries)

= 50,000 + 90,000 + 1,60,000

= ₹ 3,00,000

Operating cost = Cost of revenue from operations + Operating expenses

= 9,00,000 + 3,00,000

= ₹ 12,00,000

Operating cost ratio $= \frac{12,00,000}{15,00,000} \times 100 =$ **80%**

15. Calculate operating profit ratio under the following cases.

Case 1: Revenue from operations ₹ 8,00,000, Operating profit ₹ 2,00,000.

Case 2: Revenue from operations ₹ 20,00,000, Operating cost ₹ 14,00,000.

Case 3: Revenue from operations ₹ 10,00,000, Gross profit 25% on revenue from operations, Operating expenses ₹ 1,00,000

Solution:

Case 1 : Operating profit ratio $= \frac{\text{Operating profit}}{\text{Revenue from operations}} \times 100$

$= \frac{2,00,000}{8,00,000} \times 100 =$ **25%**

Case 2 : Operating profit ratio $= \frac{\text{Operating profit}}{\text{Revenue from operations}} \times 100$

Operating profit = Revenue from operations – Operating cost

= 20,00,000 – 14,00,000 = ₹ 6,00,000

Operating profit ratio $= \frac{6,00,000}{20,00,000} \times 100 =$ **30%**

Case 3 : Operating profit ratio $= \frac{\text{Operating profit}}{\text{Revenue from operations}} \times 100$

Operating profit = Gross profit – Operating expenses

Gross profit = 25% x 10,00,000 = ₹ 2,50,000

Operating profit = 2,50,000 – 1,00,000 = ₹ 1,50,000

Operating profit ratio $= \frac{1,50,000}{10,00,000} \times 100 =$ **15%**

16. From the following details of a business concern calculate net profit ratio.

Particulars	₹
Revenue from operations	9,60,000
Cost of revenue from operations	5,50,000
Office and administration expenses	1,45,000
Selling and distribution expenses	25,000

Solution:

Net profit ratio $= \frac{\text{Net profit after tax}}{\text{Revenue from operations}} \times 100$

Net profit = Revenue from operations – Cost of revenue from operations – Administration expenses – Selling expenses

= 9,60,000 – 5,50,000 – 1,45,000 – 25,000 = ₹ 2,40,000

Net profit ratio $= \frac{2,40,000}{9,60,000} \times 100 =$ **25%**

17. From the following statement of profit and loss of Dericston Ltd. calculate Gross profit ratio (ii) Net profit ratio.

Statement of Profit and Loss

Particulars	Note no.	Amount ₹
I. Revenue from operations		24,00,000
II. Other income :		
Income from investment		70,000
III. Total revenue (I+II)		**24,70,000**
IV. Expenses :		
Purchases of stock-in-trade		18,80,000
Changes in inventories		- 80,000
Employee benefits expense		2,90,000
Other expenses		1,10,000
Provision for tax		30,000
Total expenses		22,30,000
V. Profit before tax (III-IV)		**2,40,000**

Solution:

i. Gross profit ratio $= \frac{\text{Gross profit}}{\text{Revenue from operations}} \times 100$

Gross profit = Revenue from operations – Cost of revenue from operations

Cost of revenue from operations = Purchases of stock-in-trade + Change in inventories

= 18,80,000 + (-80,000)

= ₹ 18,00,000

Gross profit = 24,00,000 – 18,00,000

= ₹ 6,00,000

Gross profit ratio $= \frac{6,00,000}{24,00,000} \times 100 =$ **25%**

ii. Net profit ratio $= \frac{\text{Net profit after tax}}{\text{Revenue from operations}} \times 100$

Net profit ratio $= \frac{2,40,000}{24,00,000} \times 100 =$ **10%**

18. From the following trading activities of Rovina Ltd. calculate

(i) Gross profit ratio (ii) Net profit ratio (iii) Operating cost ratio (iv) Operating profit ratio

Statement of Profit and loss

Particulars	Note no.	Amount ₹
I. Revenue from operations		4,00,000
II. Other income :		
Income from investment		4,000
III. Total revenue (I+II)		**4,04,000**
IV. Expenses :		
Purchases of stock-in-trade		2,10,000
Changes in inventories		30,000
Finance costs		24,000
Other expenses (Administration and selling)		60,000
Total expenses		3,24,000
V. Profit before tax (III-IV)		**80,000**

Solution:

i. Gross profit ratio $= \frac{\text{Gross profit}}{\text{Revenue from operations}} \times 100$

Gross profit = Revenue from operations – Cost of revenue from operations

Cost of revenue from operations = Purchases of stock-in-trade + Change in inventories

= 2,10,000 + 30,000

= ₹ 2,40,000

Gross profit = 4,00,000 – 2,40,000

= ₹ 1,60,000

Gross profit ratio = $\frac{1,60,000}{4,00,000}$ x 100 = **40%**

ii. Net profit ratio = $\frac{\text{Net profit after tax}}{\text{Revenue from operations}}$ x 100

Net profit ratio = $\frac{80,000}{4,00,000}$ x 100 = **20%**

iii. Operating cost ratio = $\frac{\text{Operating cost}}{\text{Revenue from operations}}$ x 100

Operating expenses = Other expenses = ₹ 60,000

Operating cost = Cost of revenue from operations + Operating expenses

= 2,40,000 + 60,000

= ₹ 3,00,000

Operating cost ratio = $\frac{3,00,000}{4,00,000}$ x 100 = **75%**

iv. Operating profit ratio = $\frac{\text{Operating profit}}{\text{Revenue from operations}}$ x 100

Operating profit = Revenue from operations – Operating cost

= 4,00,000 – 3,00,000 = ₹ 1,00,000

Operating profit ratio = $\frac{1,00,000}{4,00,000}$ x 100 = **25%**

19. Following is the extract of balance sheet of Abdul Ltd., as on 31st March, 2019:

Particulars	₹
I EQUITY AND LIABILITIES	
1. Shareholder's funds	
(a) Share capital	2,00,000
(b) Reserves and surplus	50,000
2. Non-current liabilities	
Long-term borrowings	1,50,000
3. Current liabilities	
(a) Trade payables	1,30,000
(b) Other current liabilities	5,000
(c) Short-term provisions	20,000

Total	**5,55,000**

Net profit before interest and tax for the year was ` 60,000. Calculate the return on capital employed for the year.

Solution:

$$\text{Return on Investment} = \frac{\text{Net profit before interest and tax}}{\text{Capital employed}} \times 100$$

Capital employed = Share capital + Reserves and surplus + Long term borrowings

= 2,00,000 + 50,000 + 1,50,000

= ₹4,00,000

$$\text{Return on Investment} = \frac{60,000}{4,00,000} \times 100 = \mathbf{15\%}$$