Classification of Accounting Ratios

1 Mark Questions

1. State with reason whether repayment of long-term loan will result in increase, decrease or no change of debt equity ratio.   (All India 2012; hots)

Ans. Repayment of long-term loan will reduce the long-term debt but the share holders' funds will remain same. Therefore, the debt-equity ratio will decrease.

2. What will be the operating profit ratio, if operating ratio is 83.64%? (Delhi 2009)
Ans. Operating Profit Ratio = 100 – Operating Ratio
= 100- 83.64 = 16.36%

3. What will be the operating profit ratio, if operating ratio is 88.94%? (Delhi 2009)
Ans. Operating Profit Ratio = 100 – Operating Ratio
= 100- 88.94 = 11.06%

4. What will be the operating profit ratio, if operating ratio is 81.38%? (All India 2009)
Ans. Operating Profit Ratio = 100 – Operating Ratio
= 100- 81.38 =18.62%

5. What will be the operating profit ratio, if operating ratio is 88.34%? (All India 2009)
Ans. Operating Profit Ratio = 100 – Operating Ratio = 100- 88.34 = 11.66%.

6. The gross profit ratio of a company is 50%. State with reason whether the decrease in rent received by Rs 15,000 will increase, decrease or not change the ratio.(Delhi 2009; HOTS)
Ans. Decrease in rent received by Rs 15,000 will not change the gross profit because rent received is a non-operating income.

7. The current ratio of a company is 3: 1. State with reason, whether the payment of? 20,000 to the creditors will increase, decrease or not change the ratio.(All India 2009; HOTS)
Ans. After the payment of? 20,000 to the creditors, both the total of current assets and total of current liabilities will be reduced by the same amount. Therefore, the current ratio will increase.

8. Quick ratio of a company is 1.5:1. State giving reason whether the ratio will improve, decline or not change on payment of dividend by the company. (Delhi 2008; hots)

Ans. Ratio will increase as both the current assets and current liabilities will decrease on the payment of dividend.

9. The inventory turnover ratio of a company is 3 times. State giving reason, whether the ratio will improve, decline or not change because of increase in the value of closing Inventory by ? 5,000. (Delhi 2008; hots)
Ans. Stock turnover ratio will decline because increase in the value of closing stock by ?5,000 will increase the value of average Inventory and decrease the cost of goods sold.

10. The debt-equity ratio of a company is 0.8:1. State whether the long-term loan obtained by the company will improve, decrease or not change the ratio. (All India 2008; hots)
Ans. Debt equity ratio will improve as the long-term debts will decrease, but total shareholders' funds remain unchanged.

3 Marks Questions

11.OM Ltd has a current ratio of 3.5 : 1 and quick ratio of 2 : 1. If the excess of current assets over quick assets as represented by inventory is Rs 1,50,000, calculate current assets and current liabilities. (Delhi2012)

Ans.

Let the current liabilities = x

$$\text{Current ratio} = 3.5:1 \quad \text{i.e.} \quad \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{3.5}{1}$$

Therefore, current assets = $3.5x$

$$\text{Quick ratio} = 2:1 \quad \text{i.e.} \quad \frac{\text{Liquid Assets}}{\text{Current Liabilities}} = \frac{2}{1}$$

Therefore, quick or liquid assets = $2x$

$$\text{Liquid Assets} = \text{Current Assets} - \text{Inventory}$$
$$2x = 3.5x - 1{,}50{,}000$$
$$2x - 3.5x = -1{,}50{,}000$$
$$-1.5x = -1{,}50{,}000$$
$$x = -\frac{1{,}50{,}000}{-1.5}$$
$$x = ₹\,1{,}00{,}000$$
$$\text{Current liabilities} = ₹\,1{,}00{,}000$$
$$\text{Current assets} = 3.5 \times 1{,}00{,}000 = ₹\,3{,}50{,}000$$

12. X Ltd has a current ratio of 3: 1 and quick ratio of 2 :1. If the excess of current assets over quick assets as represented by inventory is Rs 40,000, calculate current assets and current liabilities. (All India 2012)

Ans.

Let the current liabilities = x

Current ratio = 3 :1, i.e. $\frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{3}{1}$

Therefore, current assets = 3x

Quick ratio = 2 : 1, i.e. $\frac{\text{Liquid Assets}}{\text{Current Liabilities}} = \frac{2}{1}$

Therefore, quick or liquid assets = 2x

$$\begin{aligned}
\text{Liquid Assets} &= \text{Current Assets} - \text{Inventory} \\
2x &= 3x - 40{,}000 \\
2x - 3x &= -40{,}000 \\
-x &= -40{,}000 \\
x &= 40{,}000 \\
\text{Current liabilities} &= ₹\ 40{,}000 \\
\text{Current assets} &= 3 \times ₹\ 40{,}000 \\
&= ₹\ 1{,}20{,}000
\end{aligned}$$

13.From the following information, calculate any two of the following ratios
(i) Debt-equity ratio
(ii) Working capital turnover ratio (iii) Return on investment
Information Equity share capital Rs 10,00,000, general reserve Rs 1,00,000, balance of statement of profit and loss after interest and tax Rs 3,00,000, 12% debentures Rs 4,00,000, creditors Rs 3,00,000, land and buildings Rs 13,00,000, furniture Rs 3,00,000, debtors 12,90,000, cash Rs 1,10,000.Revenue from operations i.e. sales for the year ended 31st March, 2011 was Rs 30,00,000. Tax rate is 50%. (All India 2012; Modified)

Ans.

(*i*) Debt Equity Ratio = $\frac{\text{Debt}}{\text{Equity}} = \frac{\text{Long-term Debts or Loans}}{\text{Shareholders' Funds}}$

Debt equity ratio = $\frac{4{,}00{,}000}{14{,}00{,}000}$

Debt equity ratio = 0.286 :1

Working Note

Long-term debts = 12% debentures = 4,00,000

Shareholders' Funds = Equity Share Capital + General Reserve + Balance of Statement of Profit and Loss

= 10,00,000 + 1,00,000 + 3,00,000

= ₹ 14,00,000

(*ii*) Working Capital Turnover Ratio $= \dfrac{\text{Revenue from Operations (Net sales)}}{\text{Working Capital}} = \dfrac{30,00,000}{1,00,000} = 30$ times

Working Note

Working Capital = Current Assets − Current Liabilities

$= 4,00,000 - 3,00,000 = ₹\ 1,00,000$

Current Assets = Cash + Debtors

$= 1,10,000 + 2,90,000 = ₹\ 4,00,000$

Current liabilities = creditors = ₹ 3,00,000

(*iii*) Return on Investment $= \dfrac{\text{Profit before Interest and Tax}}{\text{Capital Employed}} \times 100 = \dfrac{6,48,000 \times 100}{18,00,000} = 36\%$

Working Note

Profit before Tax $= \dfrac{\text{Profit after Tax}}{100 - \text{Tax Rate}} \times 100 = \dfrac{3,00,000}{100 - 50} \times 100 = 6,00,000$

Profit before interest and Tax = 6,00,000 + 48,000 (Interest on debentures) = 6,48,000

Capital Employed = Equity + General Reserve + Balance in Statement of Profit and Loss + 12% Debentures

$= 10,00,000 + 1,00,000 + 3,00,000 + 4,00,000 = 18,00,000$

14.On basis of the following information, calculate
(i)Debt equity ratio
(ii)Working capital turnover ratio

Information	**Amt (₹)**
Revenue from operations (Net sales)	60,00,000
Cost of revenue operations (Cost of goods sold)	45,00,000
Other current assets	11,00,000
Current liabilities	4,00,000
Paid-up share capital	6,00,000
6% debentures	3,00,000
9% loan	1,00,000
Debenture redemption reserve	2,00,000
Closing inventory	1,00,000

(Dehli 2011)

Ans.

(*i*) Debt Equity Ratio $= \frac{\text{Debt}}{\text{Equity}} = \frac{\text{Long-term Debts or Loans}}{\text{Shareholders' Fund}} = \frac{4,00,000}{8,00,000} = 0.5 : 1$

Working Note

Long-term Debts = 6% Debentures + 9% Loan

= 3,00,000 + 1,00,000 = ₹ 4,00,000

Shareholders' Funds = Paid-up Share Capital + Debenture Redemption Reserve

= 6,00,000 + 2,00,000 = 8,00,000

(*ii*) Working Capital Turnover Ratio $= \frac{\text{Cost of Revenue from Operations}}{\text{Working Capital}} = \frac{45,00,000}{8,00,000} = 5.625$ times

Working Note

Working Capital = Current Assets – Current Liabilities

= 12,00,000 – 4,00,000 = ₹ 8,00,000

Current Assets = Other Current Assets + Closing Inventory = 11,00,000 + 1,00,000 = ₹ 12,00,000

Current liabilities = ₹ 4,00,000

15.On the basis of the following information, calculate (i)Debt equity ratio (ii) Working capital turnover ratio

Information	Amt (₹)
Cash revenue from operations	40,00,000
Credit revenue from operations	20,00,000
Cost of revenue operations (Cost of goods sold)	35,00,000
Other current assets	8,00,000
Current liabilities	4,00,000
Paid-up share capital	17,00,000
6% debentures	3,00,000
9% loan from bank	1,00,000
Debenture redemption reserve	3,00,000
Closing inventory	1,00,000

(Delhi 2011)

Ans.

(*i*) $$\text{Debt Equity Ratio} = \frac{\text{Long-term Debts or Loans}}{\text{Shareholders' Funds}}$$

$$\text{Debt equity ratio} = \frac{4,00,000}{20,00,000}$$

Debt equity ratio = 0.2 : 1

Working Note

Long-term Debts = 6% Debentures + 9% Loan = 3,00,000 + 1,00,000 = ₹ 4,00,000

Shareholders' funds = Paid-up Share Capital + Debenture Redemption Reserve

= 17,00,000 + 3,00,000 = ₹ 20,00,000

(*ii*) $$\text{Working Capital Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Working Capital}} = \frac{35,00,000}{5,00,000} = 7 \text{ times}$$

Working Note

Working Capital = Current Assets − Current Liabilities

= 9,00,000 − 4,00,000 = ₹ 5,00,000

Current Assets = Other Current Assets + Closing Stock

= 8,00,000 + 1,00,000 = ₹ 9,00,000

Current liabilities = ₹ 4,00,000

16. Calculate current ratio of a company from the following information

Inventory turnover ratio : 4 times

Inventory at the end was 20,000 more than inventory in the begining

Revenue from operations (Sales)	₹ 3,00,000
Gross profit ratio	₹ 25% on revenue from operations
Current liabilities	₹ 40,000
Quick ratio	0.75 : 1

(All India 2011)

Ans.

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

$$\text{Current ratio} = \frac{96{,}250}{40{,}000}$$

$$\text{Current ratio} = 2.406 : 1$$

Working Note

Let the opening inventory = x, Closing inventory = $x + 20{,}000$

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

$$\text{Average inventory} = \frac{x + x + 20{,}000}{2}$$

$$\text{Average inventory} = x + 10{,}000$$

$$\text{Cost of Revenue from Operations} = \text{Revenue from Operations} - \text{Gross Profit}$$

$$= 3{,}00{,}000 - \left(3{,}00{,}000 \times \frac{25}{100}\right)$$

$$= 3{,}00{,}000 - 75{,}000 = ₹\ 2{,}25{,}000$$

$$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}}$$

$$4 = \frac{2{,}25{,}000}{x + 10{,}000}$$

$$4x + 40{,}000 = 2{,}25{,}000$$

$$4x = 2{,}25{,}000 - 40{,}000$$

$$x\ (\text{Opening inventory}) = \frac{1{,}85{,}000}{4} = ₹\ 46{,}250$$

$$\text{Closing inventory} = x + 20{,}000 = 46{,}250 + 20{,}000 = ₹\ 66{,}250$$

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

$$0.75 = \frac{\text{Quick Assets}}{40{,}000}$$

$$\text{Quick or liquid assets} = 40{,}000 \times 0.75 = ₹\ 30{,}000$$

$$\text{Current Assets} = \text{Quick or Liquid Assets} + \text{Inventory}$$

$$= 30{,}000 + 66{,}250$$

$$= ₹\ 96{,}250$$

17. The quick ratio of a company is 2 : 1. State giving reasons, (for any four) which of the following would improve, reduce or not change the ratio

(i)Purchase of machinery for cash
(ii)Purchase of goods on credit (iii) Sale of furniture at cost
(iv)Sale of goods at a profit
(v)Cash received from debtors (Delhi 2011 c)

Ans. (i) **Purchase of machinery for cash**
Effect Reduce
Reason Purchase of machinery for cash will decrease the quick assets, but the current liabilities remain unchanged.

(ii) **Purchase of goods on credit**
Effect Reduce
Reason Purchase of goods on credit will increase the current liabilities, but the quick assets remain unchanged.

(iii) **Sale of furniture at cost**
Effect Improve
Reason Sale of furniture at cost will increase the quick assets, but the current liabilities remain unchanged.

(iv)**Sale of goods at a profit**
Effect Improve
Reason Sale of goods at a profit will increase the quick assets, but the current liabilities remain unchanged.

(v)**Cash received from debtors**
Effect No change
Reason Cash received from debtors will not change the quick assets because the quick assets are increased and decreased with the same amount, and the current liabilities remain unchanged.

18.The debt equity ratio of a company is 1:1 state giving reasons, (any four) which of the following would improve, reduce or not change the ratio
(i)Purchase, of machinery for cash
(ii)Purchase of goods on credit (iii) Sale of furniture at cost
(iv)Sale of goods at a profit
(v)Redemption of debentures at a premium (All India 2011)

Ans. (i) **Purchase of machinery for cash**
Effect No change
Reason Neither the long-term debt nor the shareholders' funds are affected by purchasing of machinery for cash.
(ii)**Purchase of goods on credit**

Effect No change
Reason Neither the long-term debt nor the shareholders' funds are affected by purchasing of goods on credit.

(iii)**Sale of furniture at cost**
Effect No change
Reason Neither the long-term debt nor the shareholders' funds are affected by selling of furniture at cost.

(iv)**Sale of goods at a profit**
Effect Reduce
Reason Shareholders' funds are increased by the amount of profit on sale of goods, but the long-term debts remain unchanged.

(v)**Redemption of debentures at a premium**
Effect Reduce
Reason Redemption of debentures will reduce the long-term debts, but shareholders' funds remain unchanged. Here,it is assumed that premium payable on redemption of debenture is written-off through existing securities premium.

19.(i)A business has a current ratio of 3 : 1 and quick ratio of 1.2 : 1. If the working capital is Rs 1,80,000. Calculate the total current assets and value of inventory.
(ii) From the given information calculate the inventory turnover ratio. Revenue from operations (Sales) Rs 2,00,000, gross profit 25% on cost, inventory at the beginning is 1/3 of the inventory at the end which was 30% of sales. (Delhi 2010; All India 2010)

Ans.

(*i*) Working Capital = Current Assets − Current Liabilities

Current ratio = 3 : 1

Therefore, working capital = 3 − 1 = 2

If working capital = 2, current assets = 3

If working capital = 1,80,000

$$\text{Current assets} = 1{,}80{,}000 \times \frac{3}{2} = ₹\ 2{,}70{,}000$$

Current Liabilities = Current Assets − Working Capital

Current liabilities = 2,70,000 − 1,80,000 = ₹ 90,000

$$\text{Quick Ratio} = \frac{\text{Current Assets} - \text{Inventory}}{\text{Current Liabilities}}$$

$$1.2 = \frac{2{,}70{,}000 - \text{Inventory}}{90{,}000}$$

$$-\text{Inventory} = (1.2 \times 90{,}000) - 2{,}70{,}000$$

$$-\text{Inventory} = 1{,}08{,}000 - 2{,}70{,}000$$

$$\text{Inventory} = ₹\,1{,}62{,}000$$

or

Let current liabilities ₹ x

$$\text{Current Ratio} = \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{3}{1}$$

$\therefore$ Current assets = $3x$

$$\text{Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}} = \frac{1.2}{1}$$

$\therefore$ Liquid assets = $1.2\,x$

Working capital = ₹ 1,80,000

Current assets − Current liabilities = 1,80,000

$3x - x = 1,80,000$

$2x = 1,80,000$

Current liabilities x = ₹ 90,000

Current assets = $3x$

= $3 \times 90,000$ = ₹ 2,70,000

Liquid assets = $1.2\,x$

= $1.2 \times 90,000$ = ₹ 1,08,000

Inventory = Current Assets − Liquid Assets

= 2,70,000 − 1,08,000 = ₹ 1,62,000

(*ii*) $$\text{Inventory Turnover Ratio} = \frac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}} = \frac{1,60,000}{40,000}$$

Inventory turnover ratio = 4 times

Working Note

$$\text{Cost of revenue from operations} = 2,00,000 \times \frac{100}{100 + 25} = ₹\ 1,60,000$$

$$\text{Closing inventory} = 2,00,000 \times \frac{30}{100} = ₹\ 60,000$$

$$\text{Opening inventory} = 60,000 \times \frac{1}{3} = ₹\ 20,000$$

$$\text{Average inventory} = \frac{20,000 + 60,000}{2} = ₹\ 40,000$$

20. Assuming that the debt equity ratio is 2. State giving reasons whether this ratio would increase, decrease or remain unchanged in the following cases. (Any four)

(i)Purchase of fixed assets on a credit of two months

(ii)Purchase of fixed assets on long-term deferred payment basis

(iii)Issue of new shares for cash

(iv)Issue of bonus shares

(v)Sale of fixed assets at a loss of 13,000. (Delhi 2010; All India 2010)

Ans. (i) **Purchase of fixed assets on a credit of two months**
Effect No change
Reason Neither the long-term debt nor the shareholders' funds are affected by purchasing of fixed assets on a credit of two months.

(ii) **Purchase of fixed assets on a long-term deferred payment basis**
Effect Increase
Reason The long-term debts are increased by the purchasing of fixed assets on a long-term deferred payment basis, but the shareholders' fund remains unchanged.

(iii)**Issue of new shares for cash**
Effect Decrease
Reason Shareholders' funds are increased by the issue of new shares for cash, but the long-term debts remain unchanged.

(iv) **Issue of bonus shares**
Effect No change
Reason Shareholders' funds increase and decrease by the same amount.

(v) **Sale of fixed assets at a loss of Rs 3,000**
Effect Increase
Reason The shareholders' funds will reduce by the amount of loss of 3,000, but the long-term debt remain unchanged.

21.From the following information, calculate any two of the following ratios
(i)Current ratio
(ii)Debt equity ratio
(iii)Inventory turnover ratio
Information

Revenue from operations (Net sales) Rs 5,00,000, opening inventory Rs 7,000, closing inventory Rs 4,000 more than the opening inventory, net purchase Rs 1,00,000 less than revenue from operations, operating expenses Rs 30,000, liquid assets Rs 75,000, prepaid expenses Rs 2,000, current liabilities Rs 60,000, 9% debentures Rs 3,00,000, long-term loan from bank Rs 1,00,000 equity share capital Rs 10,00,000 and 8% preference share capital Rs 2,00,000. (Delhi 2010 c)

Ans.

(*i*) Current Ratio $= \frac{\text{Current Assets}}{\text{Current Liabilities}} = \frac{88,000}{60,000} = 1.47:1$

Working Note

Current Assets = Liquid Assets + Inventory + Prepaid Expenses

$= 75,000 + 11,000 + 2,000$

$= ₹\ 88,000$

Closing inventory $= 7,000 + 4,000 = ₹\ 11,000$

(*ii*) Debt Equity Ratio $= \frac{\text{Debt}}{\text{Equity}}$ or $\frac{\text{Long-term Debts or Loans}}{\text{Shareholders' Funds}}$

$= \frac{4,00,000}{12,00,000}$

Debt equity ratio $= 1:3$

Working Note

Long-term Debts = 9% Debentures + Long-term Loan from Bank

$= 3,00,000 + 1,00,000 = ₹\ 4,00,000$

Shareholders' Funds = Equity Share Capital + Preference Share Capital

$= 10,00,000 + 2,00,000 = ₹\ 12,00,000$

(*iii*) Inventory Turnover Ratio $= \frac{\text{Cost of Revenue from Operations (Cost of goods sold)}}{\text{Average Inventory}}$

$= \frac{3,96,000}{9,000} = 44$ times

Working Note

Cost of Revenue from Operations = Opening Inventory + Net Purchases − Closing Inventory

Inventory $= 7,000 + (5,00,000 - 1,00,000) - 11,000 = ₹\ 3,96,000$

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

Average inventory $= \frac{7,000 + 11,000}{2} = ₹\ 9,000$

22.From the following information, calculate any two of the following ratios (i) Liquid ratio (ii) Gross profit ratio (iii)Debt equity ratio

Information

Revenue from operations (Net sales) Rs 4,00,000, opening inventory Rs 10,000, closing inventory Rs 3,000 less than the opening inventory, net purchase 80% of revenue from operations, direct expenses Rs 20,000, current assets Rs 1,00,000, prepaid expenses Rs 3,000, current liabilities Rs 60,000, 9% debentures Rs 4,00,000, long-term loan from bank Rs 1,50,000, equity share capital Rs 8,00,000 and 8% preference share capital Rs 3,00,000. (All india 2010)

Ans.

(*i*) Liquid Ratio $= \dfrac{\text{Current Assets} - \text{Inventory} - \text{Prepaid Expenses}}{\text{Current Liabilities}}$

Liquid ratio $= \dfrac{1{,}00{,}000 - 7{,}000 - 3{,}000}{60{,}000} = 1.5:1$

Working Note

Closing inventory $= 10{,}000 - 3{,}000 =$ ₹ 7,000

(*ii*) Gross Profit Ratio $= \dfrac{\text{Gross Profit}}{\text{Revenue from Operations (Net sales)}} \times 100$

$= \dfrac{57{,}000}{4{,}00{,}000} \times 100 = 14.25\%$

Working Note

Net purchases = 80% of Revenue from Operations $= 4{,}00{,}000 \times \dfrac{80}{100} =$ ₹ 3,20,000

Cost of Revenue from Operations = Opening Inventory + Net Purchases + Direct Expenses − Closing Inventory

$= 10{,}000 + 3{,}20{,}000 + 20{,}000 - 7{,}000$

= ₹ 3,43,000

Gross Profit = Revenue from Operations − Cost of Revenue from Operations

Gross profit $= 4{,}00{,}000 - 3{,}43{,}000 =$ ₹ 57,000

(*iii*) Debt Equity Ratio $= \dfrac{\text{Debt}}{\text{Equity}}$ or $\dfrac{\text{Long-term Debts}}{\text{Shareholders' Funds}}$

$= \dfrac{5{,}50{,}000}{11{,}00{,}000}$

Debt equity ratio $= 1:2$

Working Note

Long-term Debts = 9% Debentures + Long-term Loan from Bank

$= 4{,}00{,}000 + 1{,}50{,}000 =$ ₹ 5,50,000

Shareholders' Funds = Equity Share Capital + 8% Preference Share Capital

$= 8{,}00{,}000 + 3{,}00{,}000$

= ₹ 11,00,000

23.(i) Net profit after interest but before tax Rs 1,40,000, 15% long-term debts Rs 4,00,000,shareholders' funds Rs 2,40,000 and tax rate 50%. Calculate return on capital employed.
(ii) Opening inventory Rs 60,000, closing inventory Rs 1,00,000, inventory turnover ratio 8 times and selling price 25% above cost. Calculate the gross profit ratio.

Ans.

(*i*) Return on Capital Employed = $\dfrac{\text{Net Profit before Interest, Tax and Preference Dividend}}{\text{Capital Employed}}$

$$= \frac{2,00,000}{6,40,000} \times 100 = 31.25\%$$

Working Note

Net profit after interest but before tax = 1,40,000

Interest on long-term debts = $4,00,000 \times \dfrac{15}{100} = 60,000$

Net profit before interest and tax = 1,40,000 + 60,000 = 2,00,000

Capital Employed = Long-term Debts + Shareholders' Funds

= 4,00,000 + 2,40,000

= ₹ 6,40,000

(*ii*) Gross Profit Ratio = $\dfrac{\text{Gross Profit}}{\text{Revenue from Operations (Net sales)}} \times 100$

$$= \frac{1,60,000}{8,00,000} \times 100 = 20\%$$

Working Note

Average Inventory = $\dfrac{\text{Opening Inventory + Closing Inventory}}{2}$

Average inventory = $\dfrac{60,000 + 1,00,000}{2}$ = ₹ 80,000

Inventory Turnover Ratio = $\dfrac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}}$

$$8 = \frac{\text{Cost of revenue from operations}}{80,000}$$

Cost of revenue from operations = $8 \times 80,000$ = ₹ 6,40,000

Revenue from operations (Sales) = $6,40,000 \times \dfrac{125}{100}$

= ₹ 8,00,000

Gross Profit = Revenue from Operations (Sales) – Cost of Revenue from Operations

Gross profit = 8,00,000 – 6,40,000 = ₹ 1,60,000

24. From the following information, calculate the following ratios
(i)Liquid ratio
(ii)Proprietary ratio

Information	Amt (₹)
Revenue from operations (Net sales)	5,00,000
Gross profit	1,50,000
Total current assets	3,00,000
Closing stock	25,000
Prepaid insurance	5,000
Total current liabilities	1,50,000
Share capital	4,00,000
Reserves and surplus	50,000
Fixed assets	6,00,000

(Delhi 2009C, Modified)

Ans.

(*i*) $$\text{Liquid Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{2,70,000}{1,50,000} = 1.8:1$$

Working Note

$$\text{Quick Assets} = \text{Total Current Assets} - \text{Closing Inventory} - \text{Prepaid Insurance}$$
$$= 3,00,000 - 25,000 - 5,000 = ₹\ 2,70,000$$

(*ii*) $$\text{Proprietary Ratio} = \frac{\text{Equity or Shareholders' Funds}}{\text{Total Assets}} = \frac{4,50,000}{9,00,000} = 0.5:1$$

Working Note

$$\text{Equity or Shareholders' Funds} = \text{Share Capital} + \text{Reserves and Surplus}$$
$$= 4,00,000 + 50,000 = ₹\ 4,50,000$$

$$\text{Total Assets} = \text{Total Current Assets} + \text{Fixed Assets}$$
$$= 3,00,000 + 6,00,000 = ₹\ 9,00,000$$

25. From the following information, calculate any two of the following ratios
(i) Operating ratio (ii) Inventory turnover ratio (iii) Proprietary ratio

Information	Amt (₹)
Cash revenue from operations	10,00,000
Credit revenue from operations	120% of cash sales
Operating expenses	10% of total sales
Rate of gross profit	40%
Opening inventory	1,50,000
Closing inventory	20,000 more than opening inventory
Current assets	3,00,000
Current liabilities	2,00,000
Share capital	6,00,000
Fixed assets	5,00,000

(All India 2009)

Ans.

(*i*) $\text{Operating Ratio} = \dfrac{\text{Cost of Revenue from Operations} + \text{Operating Expenses}}{\text{Revenue from Operations}} \times 100$

$\text{Operating ratio} = \dfrac{13{,}20{,}000 + 2{,}20{,}000}{22{,}00{,}000} \times 100 = 70\%$

Working Note

Credit sales $= 10{,}00{,}000 \times 120\% =$ ₹ 12,00,000

Revenue from Operations (Net sales) = Cash Revenue from Operations + Credit Revenue from Operations

$= 10{,}00{,}000 + 12{,}00{,}000 =$ ₹ 22,00,000

Gross profit $= 22{,}00{,}000 \times 40\% =$ ₹ 8,80,000

Cost of Revenue from Operations = Revenue from Operations − Gross Profit

$= 22{,}00{,}000 - 8{,}80{,}000 =$ ₹ 13,20,000

Operating expenses = 10% of total sales

Operating expenses $= 22{,}00{,}000 \times 10\% =$ ₹ 2,20,000

(*ii*) $\text{Inventory Turnover Ratio} = \dfrac{\text{Cost of Revenue from Operations}}{\text{Average Inventory}}$

$= \dfrac{13{,}20{,}000}{1{,}60{,}000} = 8.25 \text{ times}$

Working Note

$\text{Average Inventory} = \dfrac{\text{Opening Inventory} + \text{Closing Inventory}}{2} = \dfrac{1{,}50{,}000 + 1{,}70{,}000}{2} = ₹\ 1{,}60{,}000$

(*iii*) $\text{Proprietary Ratio} = \dfrac{\text{Equity or Shareholders' Funds}}{\text{Total Assets}} = \dfrac{6{,}00{,}000}{8{,}00{,}000} = 0.75 : 1$

Working Note

Equity or Shareholders' Funds = Share Capital = ₹ 6,00,000

Total Assets = Total Current Assets + Fixed Assets = 3,00,000 + 5,00,000 = ₹ 8,00,000

26.From the following information, calculate any two of the following ratios (i) Liquid ratio (ii) Debt equity ratio

Information	Amt (₹)
Revenue from operations (Net sales)	3,00,000
Gross profit	1,00,000
Total current assets	2,00,000
Closing inventory	20,000
Prepaid insurance	4,000
Total current liabilities	1,20,000
Share capital	3,50,000
Reserves and surplus	40,000
Fixed assets	4,30,000

(All India 2009; Modified)

Ans.

(*i*) $$\text{Liquid Ratio} = \frac{\text{Quick Assets}}{\text{Current Liabilities}} = \frac{1,76,000}{1,20,000} = 1.47:1$$

Working Note

Quick Assets = Total Current Assets − Inventory − Prepaid Insurance

= 2,00,000 − 20,000 − 4,000 = ₹ 1,76,000

(*ii*) $$\text{Debt Equity Ratio} = \frac{\text{Long-term Debts}}{\text{Equity or Shareholders' Funds}} \quad \frac{1,20,000}{3,90,000} = 0.31:1$$

Working Note

Equity or Shareholders' Funds = Share Capital + Reserves and Surplus

= 3,50,000 + 40,000 = ₹ 3,90,000

Long-term Debts = Total Assets − Current Liabilities − Share Capital − Reserves

= 2,00,000 + 4,30,000 − 1,20,000 − 3,50,000 − 40,000 = ₹ 1,20,000

27.From the following information, calculate any two of the following ratios (i) Net profit ratio (ii) Debt equity ratio

Information	Amt (₹)
Paid-up capital	20,00,000
Capital reserve	2,00,000
9% debentures	8,00,000
Revenue from operations (Net sales)	14,00,000
Gross profit	8,00,000
Indirect expenses	2,00,000
Current assets	4,00,000
Current liabilities	3,00,000
Opening inventory	50,000
Closing inventory	20% more than opening inventory

(All India 2008)

Ans.

(*i*) $$\text{Net Profit Ratio} = \frac{\text{Net Profit}}{\text{Revenue from Operations}} \times 100 = \frac{6,00,000}{14,00,000} \times 100 = 42.86\%$$

Working Note

Net Profit = Gross Profit − Indirect Expenses

$= 8,00,000 - 2,00,000 = ₹\ 6,00,000$

(*ii*) $$\text{Debt Equity Ratio} = \frac{\text{Long-term Debts}}{\text{Equity or Shareholders' Funds}} = \frac{8,00,000}{22,00,000} = 0.36 : 1$$

Working Note

Equity or Shareholders' Funds = Share Capital + Reserves and Surplus

Equity or shareholders' funds = 20,00,000 + 2,00,000 = ₹ 22,00,000

Long-term debts = 9% debentures = ₹ 8,00,000

(*iii*) $$\text{Quick Ratio} = \frac{\text{Liquid Assets}}{\text{Current Liabilities}} = \frac{3,40,000}{3,00,000} = 1.13 : 1$$

Working Note

Closing Inventory = Opening Inventory + 20% of Opening Inventory

= 50,000 + 20% of 50,000 = ₹ 60,000

Liquid Assets = Current Assets − Closing Inventory

= 4,00,000 − 60,000 = ₹ 3,40,000

4 Marks Questions

28. From the following calculate the 'gross profit ratio' and 'working capital turnover ratio':

Information	Amt (₹)
Revenue from operations	30,00,000
Cost of revenue from operations	20,00,000
Current assets	6,00,000
Current liabilities	2,00,000
Paid-up share capital	5,00,000

(Compartment 2014)

Ans.

$$\text{Gross Profit Ratio} = \frac{\text{Gross Profit}}{\text{Revenue from Operations (Net sales)}} \times 100$$

$$\text{Gross Profit} = \text{Revenue from Operations} - \text{Cost of Revenue from Operations}$$

$$= 30,00,000 - 20,00,000 = 10,00,000$$

$$\text{Gross profit ratio} = \frac{10,00,000}{30,00,000} \times 100 = 33\frac{1}{3}\%$$

$$\text{Working Capital Turnover Ratio} = \frac{\text{Revenue from Operations (Net sales)}}{\text{Working Capital}}$$

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

$$= 6,00,000 - 2,00,000 = 4,00,000$$

$$\text{Working capital turnover ratio} = \frac{30,00,000}{4,00,000} = 7.5:1$$

29.(i)From the following information, compute 'debt equity ratio'

Items	Amt (₹)
Long-term borrowings	2,00,000
Long-term provisions	1,00,000
Current liabilities	50,000
Non-current assets	3,60,000
Current assets	90,000

(ii) The current ratio of X Ltd is 2 : 1. State with reason which of the following transaction would increase, decrease or not change the ratio

(a) Included in the trade payables was a bills payable of Rs 9,000 which was met on maturity.

(b)Company issued 1,00,000 equity shares of Rs 10 each to the vendors of machinery purchased. (Delhi 2014)

Ans.

(*i*) Debt Equity Ratio = $\frac{\text{Long-term Debt}}{\text{Equity (Shareholders' funds)}}$

Long-term Debt = Long-term Borrowings + Long-term Provisions

= 2,00,000 + 1,00,000 = 3,00,000

Shareholders' Funds = Total Assets* – Total Liabilities**

= 4,50,000 – 3,50,000 = 1,00,000

*Total Assets = Non-current Assets + Current Assets

= 3,60,000 + 90,000 = 4,50,000

**Total Liabilities = Long-term Borrowings + Long-term Provisions + Current Liabilities

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

= 3,50,000

Therefore, debt equity ratio = $\frac{3,00,000}{1,00,000}$ = 3 : 1

(*ii*) (a) **Increase in the ratio** Simultaneous decrease in both current asset and current liabilities, i.e. cash and trade payable will increase the current ratio.

(b) **No change in the ratio** Issue of shares for machinery purchased do not affect either current assets or current liabilities. Therefore, the current ratio will not be affected.

30.The quick ratio of a company is 1.5 : 1. State with reason which of the following
transactions would (a) increase (b) decrease or (c) not change the ratio
(a)Paid rent Rs 3,000 in advance.
(b)Trade receivables included a debtor Shri Ashok who paid his entire amount due Rs 9,700.
(ii) From the following information compute 'proprietary ratio'

Information	Amt (₹)
Long-term borrowings	2,00,000
Long-term provisions	1,00,000
Current liabilities	50,000
Non-current assets	3,60,000
Current assets	90,000

(All India 2014)

Ans. (i) (a) Not change the ratio
Reason As there is a simultaneous increase and decrease in current asset, i.e. prepaid expenses and cash, therefore it will not affect the value of current asset.
(b) Not change the ratio
Reason As there is a simultaneous increase and decrease it will not affect the value of

current asset.

$$(ii)\ \text{Proprietary Ratio} = \frac{\text{Proprietor's Funds or Shareholders' Funds}}{\text{Total Assets}} = \frac{1,00,000}{4,50,000} = 0.22:1$$

Calculation of Shareholders' Funds

Assets Approach	**Amt (₹)**
Non-current Assets	3,60,000
Current Asset	90,000
Total Assets	4,50,000
(–) Current Liabilities	50,000
(–) Long-term Borrowings	2,00,000
(–) Long-term Provisions	1,00,000
Shareholders' Funds	1,00,000

31.From the following calculate:

(i) Operating profit ratio; and (if) Working capital turnover ratio

Information	**Amt (₹)**
Revenue from operations	2,00,000
Gross profit	75,000
Office expenses	15,000
Selling expenses	26,000
Interest on debentures	5,000
Accidental losses	12,000
Income from rent	2,500
Commission received	2,000
Current assets	60,000
Current liabilities	10,000

(Compartment 2014)

Ans.

(*i*) $$\text{Operating Profit Ratio} = \frac{\text{Operating Profit}}{\text{Revenue from Operations (Net sales)}} \times 100$$

$$\text{Operating Profit} = \text{Gross Profit} - \text{Other Operating Expenses} + \text{Other Operating Incomes}$$

$$\text{Other Operating Expenses} = \text{Office Expenses} + \text{Selling Expenses}$$

$$= 15{,}000 + 26{,}000$$

$$= 41{,}000$$

$$\text{Other Operating Incomes} = \text{Commission Received}$$

$$= 2{,}000$$

Accordingly,

$$\text{Operating profit} = 75{,}000 - 41{,}000 + 2{,}000$$

$$= 36{,}000$$

$$\text{Operating profit ratio} = \frac{36{,}000}{2{,}00{,}000} \times 100 = 18\%$$

(*ii*) $$\text{Working Capital Turnover Ratio} = \frac{\text{Revenue from Operations}}{\text{Working Capital}}$$

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

$$= 60{,}000 - 10{,}000 = 50{,}000$$

Accordingly,

$$\text{Working capital turnover ratio} = \frac{2{,}00{,}000}{50{,}000} = 4:1$$

32. (i) Compute 'debtors turnover ratio' from the following information Revenue from operations (Total sales) Rs 5,20,000, cash revenue from operations 60% of the credit revenue from operations closing debtors Rs 80,000, opening debtors are 3/4th of closing debtors.
(ii) Current liabilities of a company are Rs 1,60,000. Its liquid ratio is 1.5 : 1 and current ratio is 2.5 : 1. Calculate quick assets and current assets. (All India 2013)

Ans.

(i) Debtors Turnover Ratio $= \dfrac{\text{Credit Revenue from Operations}}{\text{Average Debtors}}$

$$= \frac{3,25,000}{70,000} = 4.64 \text{ times}$$

Let cash revenue from operations be x

Credit revenue from operations be y

Cash revenue from operations = 60% of credit sales

Revenue from Operations = Cash Revenue from Operations + Credit Revenue from Operations

$$5,20,000 = 60\% \text{ of } y + y$$

$$5,20,000 = 0.6y + y$$

$$\frac{5,20,000}{1.6} = y$$

$$y = ₹\ 3,25,000$$

Average Debtors $= \dfrac{\text{Opening Debtors + Closing Debtors}}{2}$

$$= \frac{60,000 + 80,000}{2} = 70,000$$

(ii) Liquid Ratio $= \dfrac{\text{Liquid Assets or Quick Assets}}{\text{Current Liabilities}} = \dfrac{1.5}{1} = \dfrac{\text{Quick assets}}{1,60,000}$

Quick assets $= 1.5 \times 1,60,000 = 2,40,000$

Current Ratio $= \dfrac{\text{Current Assets}}{\text{Current Liabilities}} = \dfrac{2.5}{1} = \dfrac{\text{Current assets}}{1,60,000}$

Current assets $= 1,60,000 \times 2.5 = ₹\ 4,00,000$

33.(i)Compute 'working capital turnover ratio' from the following information Cash revenue from operations Rs 1,30,000, credit revenue from operations Rs 3,80,000, sales returns Rs 10,000, liquid assets Rs 1,40,000, current liabilities Rs 1,05,000 and inventory Rs 90,000.
(ii) Calculate 'debt equity ratio' from the following information Total assets Rs 3,50,000, total debt Rs 2,50,000 and current liabilities Rs 80,000.(Delhi 2013)

Ans.

(*i*) Working Capital Turnover Ratio $= \dfrac{\text{Revenue form Operations}}{\text{Working Capital}} = \dfrac{5,00,000}{1,25,000} = 4$ times

Revenue from Operations = Cash Revenue from Operations + Credit Revenue from Operations − Sales Return

$= 1,30,000 + 3,80,000 - 10,000 = ₹5,00,000$

Current Assets = Liquid Assets + Inventory $= 1,40,000 + 90,000 = ₹2,30,000$

Working Capital = Current Assets − Current Liabilities $= 2,30,000 - 1,05,000 = ₹1,25,000$

(*ii*) Debt Equity Ratio $= \dfrac{\text{Long-term Debt}}{\text{Equity}} = \dfrac{1,70,000}{1,00,000} = 1.7 : 1$

Long-term Debt = Total Debts − Current Liabilities $= 2,50,000 - 80,000 = ₹1,70,000$

Shareholders' Funds = Total Assets − Total Debt $= 3,50,000 - 2,50,000 = ₹1,00,000$

34.From the following information, calculate any two of the following ratios
(i)Gross profit ratio
(ii)Working capital turnover ratio
(iii)Proprietary ratio

Information	**Amt (₹)**
Paid-up share capital	8,00,000
Current assets	5,00,000
Credit revenue from operations	3,00,000
Cash revenue from operations	75% of credit revenue from operations
9% debentures	3,40,000
Current liabilities	2,90,000
Cost of revenue from operations	6,80,000

(Delhi 2008)

Ans.

(*i*) Gross Profit Ratio $= \dfrac{\text{Gross Profit}}{\text{Revenue from Operations}} \times 100$

$= \dfrac{-1,55,000}{5,25,000} \times 100 = -29.52\%$

Working Note

Cash revenue from operations $= 3,00,000 \times 75\% = ₹\ 2,25,000$

Revenue from Operations = Cash Revenue from Operations + Credit Revenue from Operations

$= 2,25,000 + 3,00,000 = ₹\ 5,25,000$

Profit = Revenue from Operations − Cost of Revenue from Operations

Gross profit $= 5,25,000 - 6,80,000 = -\ ₹\ 1,55,000$

(*ii*) Working Capital Turnover Ratio $= \frac{\text{Revenue from Operations}}{\text{Working Capital}}$

$$= \frac{5,25,000}{2,10,000} = 2.5 \text{ times}$$

Working Note

Working Capital = Current Assets – Current Liabilities

$= 5,00,000 - 2,90,000 =$ ₹ 2,10,000

(*iii*) Proprietary Ratio $= \frac{\text{Equity or Shareholders' Funds}}{\text{Total Assets}}$

$$= \frac{8,00,000}{14,30,000} = 0.56:1$$

Working Note

Total Assets or Total Equity = Paid-up Capital + 9% Debentures + Current Liabilities

$= 8,00,000 + 3,40,000 + 2,90,000 =$ ₹ 14,30,000

Equity or shareholders' funds = Paid-up capital = ₹ 8,00,000