Ratio analysis questions and answers

60 worked exercises for interview practice

Use each fictional case independently. All amounts are in rupees. A result should include its formula, calculation and interpretation.

Conventions: use 365 days in annual day-ratio exercises. Asset/equity figures used in ROA, ROE and asset-turnover examples represent period averages unless the question provides opening and closing values. Sales are credit sales in receivables-turnover questions, and purchases are credit purchases in payables-turnover questions. Assume no preferred dividends and constant common shares unless otherwise specified. Cash-ratio questions have no marketable investments unless stated.

Core distinction: inventory turnover uses COGS. Operating cycle is DIO + DSO. Cash conversion cycle also subtracts DPO.

Liquidity Ratios

1. Q: Company A: Current assets = Rs 450,000; Current liabilities = Rs 300,000. Compute Current Ratio.

Formula: Current Ratio = Current Assets ÷ Current Liabilities

Calc: 450,000 ÷ 300,000 = 1.50

Answer: 1.50

2. Q: Company B: Cash Rs 20,000; Marketable securities Rs 10,000; Receivables Rs 70,000; Inventory Rs 50,000; Current liabilities Rs 100,000. Compute Quick Ratio.

Formula: Quick Ratio = (Cash + Marketable Securities + Receivables) ÷ Current Liabilities

Calc: (20,000+10,000+70,000) ÷ 100,000 = 100,000 ÷ 100,000 = 1.00

Answer: 1.00

3. Q: Company C: Cash Rs 15,000; Current liabilities Rs 60,000. Compute Cash Ratio.

Formula: Cash Ratio = Cash ÷ Current Liabilities

Calc: 15,000 ÷ 60,000 = 0.25

Answer: 0.25

4. Q: Company D: Current assets Rs 200,000; Current liabilities Rs 150,000. Compute Working Capital.

Formula: Working Capital = Current Assets - Current Liabilities

Calc: 200,000 - 150,000 = Rs 50,000

Answer: Rs 50,000

5. Q: Company E: Current assets Rs 120,000; Current liabilities Rs 80,000. Compute Current Ratio and Working Capital.

Calc (Current Ratio): 120,000 ÷ 80,000 = 1.50

Calc (Working Capital): 120,000 - 80,000 = Rs 40,000

Answer: Current Ratio 1.50; Working Capital Rs 40,000

Liquidity Ratios (continued)

6. Q: Company F: Cash Rs 5,000; Marketable securities Rs 2,000; Receivables Rs 18,000; Inventory Rs 25,000; Current liabilities Rs 30,000. Compute Quick Ratio.

Calc: (5,000+2,000+18,000) ÷ 30,000 = 25,000 ÷ 30,000 = 0.83 (rounded)

Answer: 0.83

7. Q: Company G: Current assets Rs 500,000; Current liabilities Rs 400,000. Compute Current Ratio and Working Capital.

Calc (Current Ratio): 500,000 ÷ 400,000 = 1.25

Calc (Working Capital): 500,000 - 400,000 = Rs 100,000

Answer: Current Ratio 1.25; Working Capital Rs 100,000

8. Q: Company H: Cash Rs 50,000; Current liabilities Rs 250,000. Compute Cash Ratio.

Calc: 50,000 ÷ 250,000 = 0.20

Answer: 0.20

9. Q: Company I: Current assets Rs 90,000; Current liabilities Rs 60,000. Compute Current Ratio.

Calc: 90,000 ÷ 60,000 = 1.50

Answer: 1.50

10. Q: Company J: Current assets Rs 300,000; Inventory Rs 80,000; Receivables Rs 100,000; Cash Rs 20,000; Current liabilities Rs 220,000. Compute Quick Ratio.

Calc: (Cash + Receivables + Marketable securities (none here)) ÷ CL = (20,000+100,000) ÷ 220,000 = 120,000 ÷ 220,000 = 0.55

Answer: 0.55

Assumption: unlisted current assets are not quick assets.

Profitability Ratios

1. Q: Firm A: Revenue Rs 1,200,000; COGS Rs 720,000. Compute Gross Margin %.

Formula: Gross Margin % = (Revenue - COGS) ÷ Revenue ×100

Calc: (1,200,000-720,000) ÷ 1,200,000 ×100 = 480,000 ÷ 1,200,000 ×100 = 40.00%

Answer: 40.00%

2. Q: Firm B: EBIT Rs 150,000; Revenue Rs 1,000,000. Compute Operating Margin %.

Calc: 150,000 ÷ 1,000,000 ×100 = 15.00%

Answer: 15.00%

3. Q: Firm C: Net Income Rs 90,000; Revenue Rs 600,000. Compute Net Profit Margin %.

Calc: 90,000 ÷ 600,000 ×100 = 15.00%

Answer: 15.00%

4. Q: Firm D: Net Income Rs 80,000; Total Assets Rs 1,000,000. Compute ROA %.

Calc: 80,000 ÷ 1,000,000 ×100 = 8.00%

Answer: 8.00%

5. Q: Firm E: Net Income Rs 120,000; Equity Rs 600,000. Compute ROE %.

Calc: 120,000 ÷ 600,000 ×100 = 20.00%

Answer: 20.00%

Profitability Ratios (continued)

6. Q: Firm F: Revenue Rs 2,000,000; Gross Profit Rs 800,000. Compute Gross Margin %.

Calc: 800,000 ÷ 2,000,000 ×100 = 40.00%

Answer: 40.00%

7. Q: Firm G: EBIT Rs 200,000; Interest Rs 20,000; Tax Rs 36,000; Revenue Rs 1,500,000. Compute Net Profit Margin % (Net Income = EBIT - Interest - Tax).

Calc (Net Income): 200,000 - 20,000 - 36,000 = 144,000

Calc (Net Margin): 144,000 ÷ 1,500,000 ×100 = 9.60%

Answer: Net Income Rs 144,000; Net Margin 9.60%

8. Q: Firm H: Net Income Rs 50,000; Assets Rs 400,000. Compute ROA %.

Calc: 50,000 ÷ 400,000 ×100 = 12.50%

Answer: 12.50%

9. Q: Firm I: Net Income Rs 200,000; Equity Rs 800,000. Compute ROE %.

Calc: 200,000 ÷ 800,000 ×100 = 25.00%

Answer: 25.00%

10. Q: Firm J: Revenue Rs 900,000; COGS Rs 540,000; Net Income Rs 81,000. Compute Gross Margin % and Net Margin %.

Calc (Gross Margin): (900,000-540,000) ÷ 900,000 ×100 = 360,000 ÷ 900,000 ×100 = 40.00%

Calc (Net Margin): 81,000 ÷ 900,000 ×100 = 9.00%

Answer: Gross Margin 40.00%; Net Margin 9.00%

Solvency / Leverage Ratios

1. Q: Company A: Total Debt Rs 400,000; Total Equity Rs 600,000. Compute Debt-to-Equity.

Calc: 400,000 ÷ 600,000 = 0.67

Answer: 0.67

2. Q: Company B: Total Debt Rs 300,000; Total Assets Rs 900,000. Compute Debt Ratio.

Calc: 300,000 ÷ 900,000 = 0.33 (33%)

Answer: 0.33

3. Q: Company C: EBIT Rs 120,000; Interest expense Rs 30,000. Compute Interest Coverage Ratio.

Calc: 120,000 ÷ 30,000 = 4.00

Answer: 4.00

4. Q: Company D: Long-term Debt Rs 250,000; Equity Rs 500,000. Compute long-term debt-to-equity.

Calc: 250,000 ÷ 500,000 = 0.50

Answer: 0.50

5. Q: Company E: Total Debt Rs 150,000; Total Assets Rs 500,000. Compute Debt Ratio.

Calc: 150,000 ÷ 500,000 = 0.30 (30%)

Answer: 0.30

6. Q: Company F: EBIT Rs 80,000; Interest Rs 20,000. Compute Interest Coverage.

Calc: 80,000 ÷ 20,000 = 4.00

Answer: 4.00

7. Q: Company G: Total Debt Rs 1,000,000; Equity Rs 2,000,000. Compute Debt-to-Equity.

Calc: 1,000,000 ÷ 2,000,000 = 0.50

Answer: 0.50

8. Q: Company H: Total Debt Rs 200,000; Assets Rs 400,000. Compute Debt Ratio.

Calc: 200,000 ÷ 400,000 = 0.50 (50%)

Answer: 0.50

9. Q: Company I: EBIT Rs 300,000; Interest Rs 50,000. Compute Interest Coverage.

Calc: 300,000 ÷ 50,000 = 6.00

Answer: 6.00

10. Q: Company J: Total Debt Rs 450,000; Equity Rs 550,000. Compute Debt-to-Equity.

Calc: 450,000 ÷ 550,000 = 0.82 (rounded)

Answer: 0.82

Efficiency Ratios

1. Q: RetailCo: COGS Rs 1,200,000; Average Inventory Rs 150,000. Compute Inventory Turnover and DIO (Days Inventory Outstanding).

Calc (Inventory Turnover): 1,200,000 ÷ 150,000 = 8.00

Calc (DIO): 365 ÷ 8 = 45.63 days

Answer: Inventory Turnover 8.00; DIO 45.63 days

2. Q: TechCo: Net Credit Sales Rs 800,000; Avg Receivables Rs 100,000. Compute Receivables Turnover and DSO.

Calc (Receivables Turnover): 800,000 ÷ 100,000 = 8.00

Calc (DSO): 365 ÷ 8 = 45.63 days

Answer: Receivables Turnover 8.00; DSO 45.63 days

3. Q: ManufCo: COGS Rs 900,000; Avg Inventory Rs 200,000. Compute Inventory Turnover.

Calc: 900,000 ÷ 200,000 = 4.50

Answer: 4.50

4. Q: ServiceCo: Sales Rs 600,000; Total Assets Rs 400,000. Compute Asset Turnover.

Calc: 600,000 ÷ 400,000 = 1.50

Answer: 1.50

5. Q: RetailCo2: COGS Rs 700,000; Avg Inventory Rs 70,000. Compute Inventory Turnover and DIO.

Calc (Inv Turnover): 700,000 ÷ 70,000 = 10.00

Calc (DIO): 365 ÷ 10 = 36.50 days

Answer: Inventory Turnover 10.00; DIO 36.50 days

Efficiency Ratios (continued)

6. Q: BizCo: Net Sales Rs 1,000,000; Avg Receivables Rs 125,000. Compute Receivables Turnover.

Calc: 1,000,000 ÷ 125,000 = 8.00

Answer: 8.00

7. Q: FirmX: Sales Rs 2,000,000; Assets Rs 1,000,000. Compute Asset Turnover.

Calc: 2,000,000 ÷ 1,000,000 = 2.00

Answer: 2.00

8. Q: TraderCo: Purchases Rs 500,000; Avg Payables Rs 50,000. Compute Payables Turnover and DPO.

Calc (Payables Turnover): 500,000 ÷ 50,000 = 10.00

Calc (DPO): 365 ÷ 10 = 36.50 days

Answer: Payables Turnover 10.00; DPO 36.50 days

9. Q: RetailCo3: COGS Rs 1,500,000; Avg Inventory Rs 120,000. Compute Inventory Turnover.

Calc: 1,500,000 ÷ 120,000 = 12.50

Answer: 12.50

10. Q: OpsCo: Net Sales Rs 900,000; Avg Receivables Rs 90,000. Compute Receivables Turnover and DSO.

Calc: 900,000 ÷ 90,000 = 10.00; DSO = 365 ÷ 10 = 36.50 days

Answer: Receivables Turnover 10.00; DSO 36.50 days

Market Ratios

1. Q: Co A: Net Income Rs 500,000; Shares Outstanding 100,000. Compute Basic EPS.

Calc: 500,000 ÷ 100,000 = Rs 5.00 per share

Answer: Rs 5.00

2. Q: Co B: Market Price per share Rs 250; EPS Rs 5. Compute P/E ratio.

Calc: 250 ÷ 5 = 50.00

Answer: 50.00x

3. Q: Co C: Annual Dividend per share Rs 4; Market Price Rs 200. Compute Dividend Yield %.

Calc: (4 ÷ 200) ×100 = 2.00%

Answer: 2.00%

4. Q: Co D: Total Equity Rs 2,000,000; Shares Outstanding 200,000. Compute Book Value per Share.

Calc: 2,000,000 ÷ 200,000 = Rs 10.00

Answer: Rs 10.00

5. Q: Co E: Market Cap Rs 50,000,000; Revenue Rs 20,000,000. Compute Market Cap / Sales.

Calc: 50,000,000 ÷ 20,000,000 = 2.50

Answer: 2.50x

6. Q: Co F: Net Income Rs 1,200,000; Shares 300,000. Compute EPS.

Calc: 1,200,000 ÷ 300,000 = Rs 4.00

Answer: Rs 4.00

7. Q: Co G: Price Rs 120; EPS Rs 3. Compute P/E.

Calc: 120 ÷ 3 = 40.00

Answer: 40.00x

8. Q: Co H: Dividend Rs 2; Price Rs 50. Compute Dividend Yield %.

Calc: (2 ÷ 50) ×100 = 4.00%

Answer: 4.00%

9. Q: Co I: Equity Rs 5,000,000; Shares 250,000. Compute Book Value per Share.

Calc: 5,000,000 ÷ 250,000 = Rs 20.00

Answer: Rs 20.00

10. Q: Co J: Market Cap Rs 10,000,000; Revenue Rs 4,000,000. Compute Market Cap / Sales.

Calc: 10,000,000 ÷ 4,000,000 = 2.50

Answer: 2.50x

Activity Ratio Questions

Q1. Inventory Turnover Ratio Company A has: COGS = Rs 9,00,000 Opening Inventory = Rs 1,80,000 Closing Inventory = Rs 2,20,000 Find: Inventory Turnover Ratio.

Solution: Average Inventory = (1,80,000 + 2,20,000) / 2 = Rs 2,00,000 Inventory Turnover = COGS / Avg Inventory = 9,00,000 / 2,00,000 = 4.5 times

Q2. Days Inventory Outstanding (DIO) Using the previous question's inventory turnover of 4.5 times, compute DIO.

Solution: DIO = 365 / 4.5 = 81.1 days

Q3. Receivables Turnover Ratio Company B: Credit Sales = Rs 24,00,000 Average Accounts Receivable = Rs 4,00,000 Compute Receivables Turnover.

Solution: Receivables Turnover = 24,00,000 / 4,00,000 = 6 times

Q4. Days Sales Outstanding (DSO) Using turnover of 6 times, compute DSO.

Solution: DSO = 365 / 6 = 60.8 days

Q5. Payables Turnover Ratio Company C: Credit Purchases = Rs 12,00,000 Average Accounts Payable = Rs 2,00,000 Compute Payables Turnover.

Solution: Payables Turnover = 12,00,000 / 2,00,000 = 6 times

Activity Ratio Questions (continued)

Q6. Days Payable Outstanding (DPO) Using turnover of 6, compute DPO.

Solution: DPO = 365 / 6 = 60.8 days

Q7. Total Asset Turnover Company D: Net Sales = Rs 50,00,000 Total Assets = Rs 25,00,000 Compute Asset Turnover.

Solution: Asset Turnover = 50,00,000 / 25,00,000 = 2 times

Q8. Fixed Asset Turnover Company E: Sales = Rs 40,00,000 Net Fixed Assets = Rs 16,00,000 Compute FAT.

Solution: FAT = 40,00,000 / 16,00,000 = 2.5 times

Q9. Working Capital Turnover Company F: Sales = Rs 30,00,000 Current Assets = Rs 12,00,000 Current Liabilities = Rs 7,00,000 Compute WCT.

Solution: Working Capital = 12,00,000 - 7,00,000 = Rs 5,00,000 Working Capital Turnover = 30,00,000 / 5,00,000 = 6 times

Q10. Operating cycle and cash conversion cycle. Company G has DIO = 70 days, DSO = 50 days and DPO = 40 days. Compute both cycles.

Solution: Operating cycle = DIO + DSO = 70 + 50 = 120 days. Cash conversion cycle = DIO + DSO - DPO = 70 + 50 - 40 = 80 days.

Formula conventions and further practice

Use the companion revised formula reference. Compare ratios across consistent periods and businesses. A numerical answer does not establish credit quality or investment suitability on its own.

https://mentormecareers.com/ratio-analysis-problems-with-solutions/