

CHAPTER 5

FINANCIAL RATIOS - ANALYSIS

RATIOS
ANALYSE
INTERPRET
DECIDE
GROW

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation



DEEP THEORY

Every formula explained from the logic behind it.



NUMERICAL MASTERY

Basic → Board → Tricky → Integrated.



TEACHER POV

Mistakes, shortcuts, interpretation and exam presentation.



MOBILE FRIENDLY

Large fonts, high contrast, clean tables and readable diagrams.

Same Concepts.
A Smarter Way to Learn.

FINANCIAL RATIOS
TODAY
BETTER DECISIONS
TOMORROW

FINANCIAL STATEMENTS

RATIO ANALYSIS

BUSINESS DECISIONS



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CREATES
FREEDOM

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INTERPRET
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CHAPTER 5 OVERVIEW

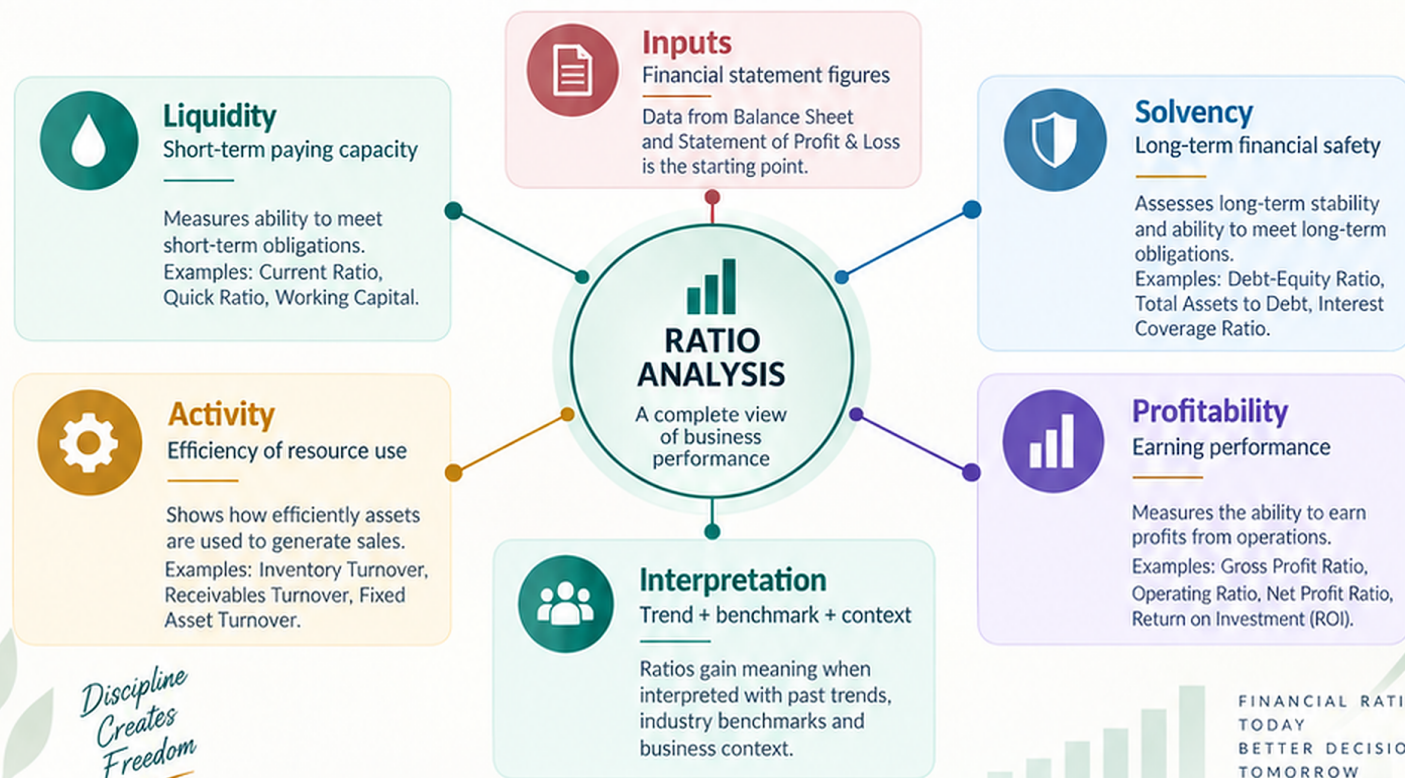
FINANCIAL RATIOS - ANALYSIS

Concepts • Formula Logic • 50+ Worked Numericals • Reverse Problems • Interpretation

*Same Concepts.
A Smarter
Way to Learn.*

Accounting Ratios - The Four Families

Different ratios, one bigger picture. All ratios help us analyse a business from different angles.



How to Use This Premium Master

This is not a formula list. The chapter is designed to teach the logic behind every ratio, train you to classify figures correctly, solve direct and reverse numericals, predict the effect of transactions, and write a short interpretation after calculation.

Module	What you will master	Key Focus
A. Foundations	Meaning, objectives, advantages, limitations, classification and formula architecture	Concept Clarity
B. Liquidity	Current ratio, quick ratio, working capital and transaction effects	Short-term Strength
C. Solvency	Debt-equity, total assets to debt, proprietary, interest coverage, debt to capital employed	Long-term Safety
D. Activity	Inventory, receivables, payables, fixed assets, net assets and working capital turnover	Operational Efficiency
E. Profitability	Gross profit, operating ratio, operating profit, net profit before/after tax and ROI	Earning Power
F. Board Mastery	Integrated cases, MCQs, assertion-reason, case-based questions, practice and detailed solutions	Exam Readiness



DESIGN PROMISE

This chapter uses only light callout backgrounds with dark readable text. No dark navy-filled box is used for instructional diagrams, so labels remain readable on mobile and in print.



SOURCE & ALIGNMENT

Primary coverage is mapped to the uploaded Accountancy Volume II chapter. The formula treatment has also been cross-checked against NCERT Accountancy Part II (Accounting Ratios, Reprint 2026-27) and the current CBSE 2026-27 curriculum.

1. FOUNDATION

Ratio Analysis - The Big Idea

Numbers become useful only when they answer a business question.

A ratio is a relationship between two accounting figures that are logically connected. The calculation is usually easy; the difficult part is choosing the correct numerator, denominator and interpretation.

THINK LIKE AN ANALYST

- 1 What business question is being measured?
- 2 Which figures belong to that question?
- 3 Is the result a proportion, percentage or number of times?

Liquidity

Solvency

RATIO
ANALYSIS

connect • compare • interpret

Activity

Profitability

Why ratios matter

01 Simplify

Large financial statements become meaningful relationships.

02 Diagnose

Highlights liquidity, solvency, efficiency and profitability.

03 Compare

Supports trend and inter-firm comparison when policies are comparable.

04 Investigate

Signals areas needing attention; it does not automatically explain the cause.

"A good ratio answer has three layers: formula, calculation, interpretation."

2. FOUNDATION

Objectives, Advantages and Limitations

Know what ratios can do — and what they cannot do.

01 OBJECTIVES / USES

1. Identify areas needing management attention.
2. Measure short-term liquidity and long-term solvency.
3. Judge resource-use efficiency through turnover ratios.
4. Evaluate margins and returns through profitability ratios.
5. Compare performance across years or against a suitable benchmark.
6. Support projections, but only when combined with qualitative information.

02 ADVANTAGES

1. Makes complex figures easier to understand.
2. Shows trends and relationships hidden in absolute amounts.
3. Supports diagnosis of strengths and weak areas.
4. Useful for credit decisions, investment analysis and internal control.

03 LIMITATIONS

1. Ratios inherit errors and accounting-policy choices from financial statements.
2. Inflation can distort comparisons across years.
3. Qualitative factors such as management quality are ignored.
4. Different accounting practices can make inter-firm comparison misleading.
5. There is no single universal "ideal" ratio for every industry.
6. Ratios signal a problem; they do not prescribe the solution.

POV**TEACHER POV**

Never write "higher is always better". For many ratios, excessively high values can also be inefficient. Interpretation needs context.

3. FOUNDATION

Classification of Ratios

Four families. Four business questions. One complete performance view.

SHORT TERM

Liquidity

Can the firm meet short-term obligations?

Current Ratio, Quick Ratio

LONG TERM

Solvency

Is long-term financing safe and sustainable?

Debt-Equity, Total Assets to Debt, Proprietary, Interest Coverage, Debt to Capital Employed

BUSINESS

PERFORMANCE

Ask the right question first

EFFICIENCY

Activity / Turnover

How efficiently are resources used?

Inventory, Receivables, Payables, Fixed Asset, Net Asset, Working Capital Turnover

RETURN

Profitability

How well does the firm convert sales/capital into profit?

GP Ratio, Operating Ratio, Operating Profit Ratio, NP Ratio, ROI

CBSE

BOARD RULE

The current CBSE 2026-27 syllabus specifically includes these four ratio families. Net Profit Ratio is to be calculated on the basis of profit before and after tax where asked.

4. FOUNDATION

Formula Ingredients

Most ratio errors are classification errors — not arithmetic errors.

01
Net Revenue from Operations

Gross revenue from operations - returns inwards

02
Net Credit Revenue

Net revenue from operations - cash revenue from operations (if cash sales are separately given)

03
Cost of Revenue / COGS

Opening inventory + net purchases + direct expenses - closing inventory

04
Average Inventory

(Opening inventory + Closing inventory) / 2

05
Average Trade Receivables

Average of (Debtors + Bills Receivable) at beginning and end; if only closing figure is given, use available figure

06
Average Trade Payables

Average of (Creditors + Bills Payable) at beginning and end

07
Working Capital

Current Assets - Current Liabilities

08
Capital Employed

Shareholders Funds + Long-term Debt OR Total Assets - Current Liabilities

09
EBIT / PBIT

Profit before interest and tax; adjust from NPAT only when needed

10
Operating Expenses

Employee/admin/selling/distribution and other operating costs; exclude non-operating items

!
COMMON TRAP

A formula can be memorised correctly and still produce a wrong answer if a figure is classified incorrectly. Most ratio mistakes are classification mistakes, not arithmetic mistakes.

CHAPTER 5

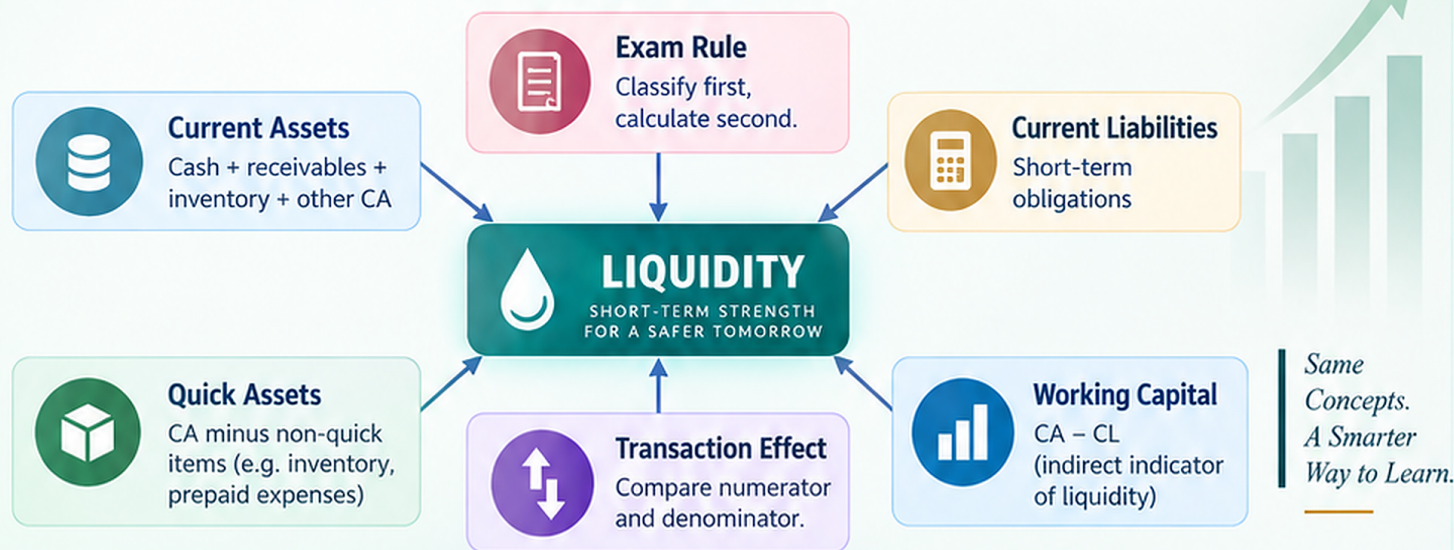
5. LIQUIDITY RATIOS

UNDERSTAND • ANALYSE • APPLY • EXCEL

FINANCIAL
RATIOS
TODAY
BETTER DECISIONS
TOMORROW

Liquidity - What Changes the Answer?

MULTIPLE FACTORS INFLUENCE THE MEANING AND VALUE OF LIQUIDITY RATIOS.



1 Current Ratio

MEASURES BROAD SHORT-TERM SOLVENCY

Current Ratio = Current Assets / Current Liabilities. It measures the broad short-term cushion available to meet current obligations. A reasonable ratio is preferred; an extremely high ratio may indicate idle current assets.



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



Quick Reminder

- Ratio > 1 is generally considered better.
- Too high a ratio may indicate idle funds.
- Always interpret in the context of the business.

2 Quick Ratio / Acid-Test Ratio

MEASURES IMMEDIATE LIQUIDITY

Quick Ratio = Quick Assets / Current Liabilities. Quick assets exclude inventory and other current assets that are not quickly convertible into cash, such as prepaid expenses and advance tax where applicable.



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



Key Points

- Inventory and non-quick current assets are removed.
- Provides a stricter test of short-term liquidity.
- Especially useful when inventory is slow moving.



SMIT SIR'S LOGIC

Current Ratio asks "How much current asset cover exists?" Quick Ratio asks "How much immediately liquid cover exists?" That is why inventory and non-quick current assets are removed.

WORKED EXAMPLE 1

CURRENT RATIO - DIRECT

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation



QUESTION

Current Assets are Rs. 7,20,000 and Current Liabilities are Rs. 3,00,000. Calculate Current Ratio.

Step-by-step solution

1

Step 1

Write the formula:

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

2

Step 2

Substitute:

$$\text{Current Ratio} = \frac{7,20,000}{3,00,000} = 2.40$$

3

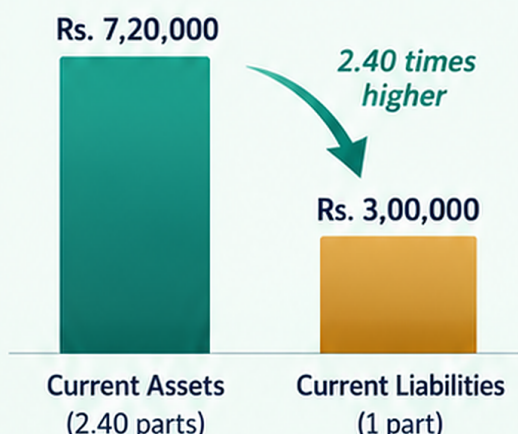
Step 3

Express as a proportion:

$$\text{Current Ratio} = 2.40 : 1$$

VISUAL: ASSETS vs LIABILITIES

Current Assets are 2.40 times the Current Liabilities.



For every Re. 1 of current liabilities, the business has Rs. 2.40 of current assets.



FINAL ANSWER

$$\text{Current Ratio} = 2.40 : 1$$



EXAM TIP

Always write “:1” for this ratio.



SMIT SIR'S POV

The arithmetic is easy. The scoring step is showing the formula and correct classification.

Same Concepts.
A Smarter Way to Learn.



WORKED EXAMPLE 2

Find Current Assets from Working Capital

*Same
Concepts
Stronger
Understanding*

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation


QUESTION

Working Capital is Rs. 4,50,000 and Current Liabilities are Rs. 3,00,000. Find Current Assets and Current Ratio.

Step-by-step solution

THINK | SOLVE | LEARN

1
Step 1.

Working Capital = Current Assets - Current Liabilities.

2
Step 2.

Current Assets = 4,50,000 + 3,00,000 = Rs. 7,50,000.

3
Step 3.

Current Ratio = 7,50,000 / 3,00,000 = 2.50 : 1.


FINAL ANSWER

Current Assets = Rs. 7,50,000; Current Ratio = 2.50 : 1


SMIT SIR'S POV

Reverse problems become simple if you first convert the English information into one basic equation.


KEY EQUATION

Working Capital = Current Assets - Current Liabilities

“Convert words into equations, problems become simple.”



*Financial Clarity
Leads to Better Decisions.*

PRACTICE TODAY
PROGRESS TOMORROW

WORKED EXAMPLE 3

Quick Ratio - Classify First

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

A company has Inventory Rs. 1,80,000, Trade Receivables Rs. 2,40,000, Cash Rs. 90,000, Prepaid Expenses Rs. 30,000, Current Investments Rs. 60,000 and Current Liabilities Rs. 2,40,000. Calculate Current and Quick Ratios.

Step-by-step solution

1

Step 1

Current Assets = 1,80,000 + 2,40,000 + 90,000 + 30,000 + 60,000 = Rs. 6,00,000.

2

Step 2

Current Ratio = 6,00,000 / 2,40,000 = 2.50 : 1.

3

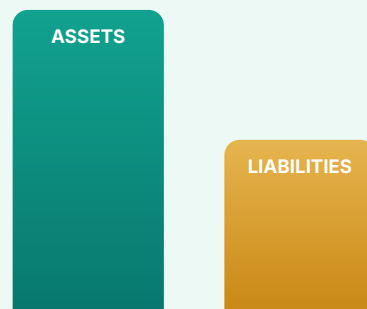
Step 3

Quick Assets = 6,00,000 - 1,80,000 - 30,000 = Rs. 3,90,000.

4

Step 4

Quick Ratio = 3,90,000 / 2,40,000 = 1.625 : 1.

VISUAL: SHORT-TERM COVER


Compare the numerator with the denominator, then explain what the ratio means.

Quick Ratio = Quick Assets / Current Liabilities

✓

FINAL ANSWER

Current Ratio = 2.50 : 1; Quick Ratio = 1.63 : 1

TIP

EXAM TIP

Do not subtract receivables or current investments; they are normally quick assets.

POV

SMIT SIR'S POV

Underline every non-quick item before you calculate.

WORKED EXAMPLE 4

Current + Quick Ratio Reverse Problem

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Current Ratio is 3 : 1, Quick Ratio is 1.5 : 1 and Current Liabilities are Rs. 2,00,000. Find Current Assets, Quick Assets and Inventory (ignore prepaid expenses).

Step-by-step solution

1

Step 1

Current Assets = $3 \times 2,00,000 = \text{Rs. } 6,00,000$.

2

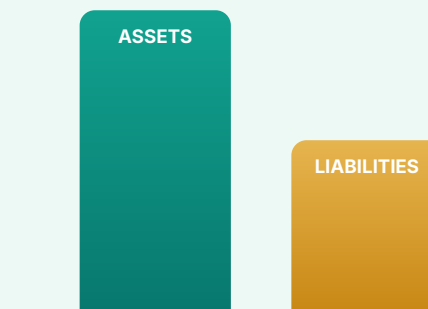
Step 2

Quick Assets = $1.5 \times 2,00,000 = \text{Rs. } 3,00,000$.

3

Step 3

Inventory = Current Assets - Quick Assets = Rs. 3,00,000.

VISUAL: SHORT-TERM COVER


Compare the numerator with the denominator, then explain what the ratio means.

Quick Ratio = Quick Assets / Current Liabilities

FINAL ANSWER

✓

Current Assets = Rs. 6,00,000; Quick Assets = Rs. 3,00,000; Inventory = Rs. 3,00,000

POV

SMIT SIR'S POV

When both ratios are given with the same denominator, the difference between their numerators reveals inventory/non-quick assets.

WORKED EXAMPLE 5

Current Ratio from Working Capital and Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Current Ratio is 2.5 : 1 and Working Capital is Rs. 4,50,000. Find Current Assets and Current Liabilities.

Step-by-step solution

1

Step 1

Let Current Liabilities = x . Then Current Assets = $2.5x$.

2

Step 2

Working Capital = $2.5x - x = 1.5x = 4,50,000$.

3

Step 3

$x = 3,00,000$. Therefore Current Liabilities = Rs. 3,00,000.

4

Step 4

Current Assets = $2.5 \times 3,00,000 = \text{Rs. } 7,50,000$.

VISUAL: SHORT-TERM COVER

ASSETS

LIABILITIES

Compare the numerator with the denominator, then explain what the ratio means.

Current Ratio = Current Assets / Current Liabilities

✓

FINAL ANSWER

Current Liabilities = Rs. 3,00,000; Current Assets = Rs. 7,50,000

TIP

EXAM TIP

For ratio $a:b$ and working capital W , think of the difference $(a-b)$ parts.

WORKED EXAMPLE 6

Transaction Effect – Paying Current Liability

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Before payment, Current Assets are Rs. 8,00,000 and Current Liabilities are Rs. 4,00,000. The company pays Trade Payables of Rs. 1,00,000 in cash. Find the revised Current Ratio.

Step-by-step solution

1

Step 1

Old ratio = $8,00,000 / 4,00,000 = 2 : 1$.

2

Step 2

Cash payment reduces Current Assets by Rs. 1,00,000 and Current Liabilities by Rs. 1,00,000.

3

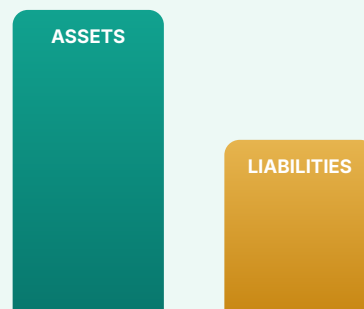
Step 3

New Current Assets = Rs. 7,00,000; New Current Liabilities = Rs. 3,00,000.

4

Step 4

New ratio = $7,00,000 / 3,00,000 = 2.33 : 1$.

VISUAL: SHORT-TERM COVER


Compare the numerator with the denominator, then explain what the ratio means.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Revised Current Ratio = 2.33 : 1 (improves)

POV

SMIT SIR'S POV

When the old ratio is above 1, paying equal amounts from both numerator and denominator generally improves the ratio.

WORKED EXAMPLE 7

Transaction Effect - Credit Purchase

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Current Assets are Rs. 6,00,000 and Current Liabilities are Rs. 3,00,000. Goods worth Rs. 1,00,000 are purchased on credit. Find the revised Current Ratio.

Step-by-step solution

1

Step 1

Old ratio = 2 : 1.

2

Step 2

Inventory increases by Rs. 1,00,000, so Current Assets become Rs. 7,00,000.

3

Step 3

Trade Payables increase by Rs. 1,00,000, so Current Liabilities become Rs. 4,00,000.

4

Step 4

New ratio = $7,00,000 / 4,00,000 = 1.75 : 1$.

VISUAL: SHORT-TERM COVER

ASSETS

LIABILITIES

Compare the numerator with the denominator, then explain what the ratio means.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Revised Current Ratio = 1.75 : 1 (reduces)

TIP

EXAM TIP

When CA and CL rise by the same amount, a ratio above 1 moves downward toward 1.

WORKED EXAMPLE 8

Quick Ratio with Advance Tax

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Current Assets Rs. 9,00,000 include Inventory Rs. 2,40,000, Prepaid Insurance Rs. 40,000 and Advance Tax Rs. 20,000. Current Liabilities are Rs. 4,00,000. Calculate Quick Ratio.

Step-by-step solution

1

Step 1

Quick Assets = Current Assets - Inventory - Prepaid Insurance - Advance Tax.

2

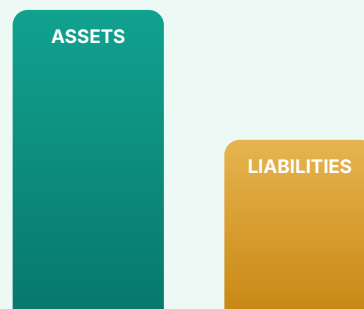
Step 2

Quick Assets = 9,00,000 - 2,40,000 - 40,000 - 20,000 = Rs. 6,00,000.

3

Step 3

Quick Ratio = 6,00,000 / 4,00,000 = 1.50 : 1.

VISUAL: SHORT-TERM COVER


Compare the numerator with the denominator, then explain what the ratio means.

Quick Ratio = Quick Assets / Current Liabilities

✓

FINAL ANSWER

Quick Ratio = 1.50 : 1

POV

SMIT SIR'S POV

The safest exam method is to identify quick assets item-by-item rather than blindly subtracting only inventory.

WORKED EXAMPLE 9

Find Inventory from Current and Quick Ratios

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Current Ratio is 2.8 : 1, Quick Ratio is 1.6 : 1 and Current Liabilities are Rs. 2,50,000. Find Inventory assuming no prepaid expenses or other non-quick current assets.

Step-by-step solution

1

Step 1

Current Assets = $2.8 \times 2,50,000 = \text{Rs. } 7,00,000$.

2

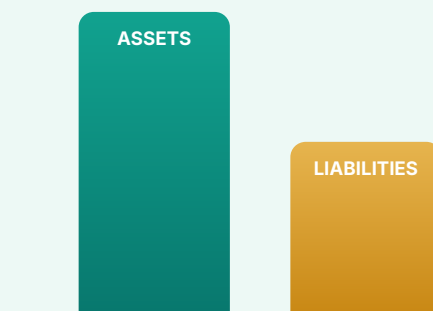
Step 2

Quick Assets = $1.6 \times 2,50,000 = \text{Rs. } 4,00,000$.

3

Step 3

Inventory = $7,00,000 - 4,00,000 = \text{Rs. } 3,00,000$.

VISUAL: SHORT-TERM COVER


Compare the numerator with the denominator, then explain what the ratio means.

Quick Ratio = Quick Assets / Current Liabilities

✓

FINAL ANSWER

Inventory = Rs. 3,00,000

TIP

EXAM TIP

Mention the assumption if the question gives no other non-quick current asset.

WORKED EXAMPLE 10

Target Current Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Current Assets are Rs. 9,00,000 and Current Liabilities are Rs. 6,00,000. How much current liability should be paid in cash to achieve a Current Ratio of 2 : 1?

Step-by-step solution

1

Step 1

Let amount paid = x. After payment: CA = 9,00,000 - x and CL = 6,00,000 - x.

2

Step 2

Target equation: $(9,00,000 - x) / (6,00,000 - x) = 2$.

3

Step 3

$9,00,000 - x = 12,00,000 - 2x$, so x = Rs. 3,00,000.

4

Step 4

Check: $6,00,000 / 3,00,000 = 2 : 1$.

VISUAL: SHORT-TERM COVER

ASSETS

LIABILITIES

Compare the numerator with the denominator, then explain what the ratio means.

Current Ratio = Current Assets / Current Liabilities

✓

FINAL ANSWER

Pay Current Liabilities of Rs. 3,00,000

POV

SMIT SIR'S POV

Target-ratio questions are equation problems. Do not guess from the difference.

6. LIQUIDITY LOGIC

Current Ratio - Transaction Effect Matrix

When the old Current Ratio is above 1, equal changes pull the ratio toward 1.

Transaction	Effect on CA	Effect on CL	Typical effect (old CR > 1)
Pay current liability in cash	Decrease	Decrease	Improves
Buy goods on credit	Increase	Increase	Reduces
Buy goods for cash	No net change	No change	No change
Sell inventory at cost for cash	No net change	No change	No change
Sell inventory at profit	Increase by profit	No change	Improves
Sell inventory at loss	Decrease by loss	No change	Reduces
Issue shares for cash	Increase	No change	Improves
Purchase non-current asset for cash	Decrease	No change	Reduces
Purchase non-current asset on long-term credit	No change	No change	No change

WHY
WHY?

The direction depends on the starting ratio. An equal change in numerator and denominator pulls a ratio toward 1. That is the deeper logic behind many "state the effect" questions.

7. SOLVENCY

Solvency Ratios

Long-term financing • lender safety • fixed financial commitments



Solvency ratios examine long-term financing, security to lenders and the ability of the business to meet fixed financial commitments.

Debt-Equity
Long-term Debt / Shareholders Funds

How much long-term debt exists per rupee of owners' funds?

Total Assets to Debt
Total Assets / Long-term Debt

How many rupees of assets support each rupee of long-term debt?

Proprietary
Shareholders Funds / Total Assets

What proportion of assets is financed by owners?

Interest Coverage
EBIT / Interest on Long-term Debt

How many times can operating profit cover interest?

Debt to Capital Employed
Long-term Debt / Capital Employed

What part of permanent capital is debt-financed?

Equity

Owners' permanent funds

+

Long-term Debt

Borrowed permanent funds

=

Capital Employed

Long-term funds invested in business

WORKED EXAMPLE 11

Debt-Equity Ratio - Direct

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Equity Share Capital Rs. 8,00,000, Preference Share Capital Rs. 2,00,000, General Reserve Rs. 1,50,000, Surplus Rs. 50,000, 12% Debentures Rs. 3,00,000 and Long-term Bank Loan Rs. 1,50,000. Calculate Debt- Equity Ratio.

Step-by-step solution

1

Step 1

Shareholders Funds = 8,00,000 + 2,00,000 + 1,50,000 + 50,000 = Rs. 12,00,000.

2

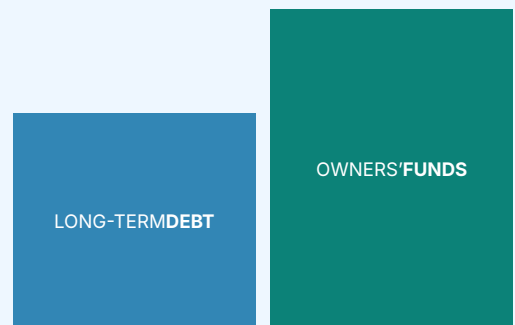
Step 2

Long-term Debt = 3,00,000 + 1,50,000 = Rs. 4,50,000.

3

Step 3

Debt-Equity Ratio = 4,50,000 / 12,00,000 = 0.375 : 1.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Debt-Equity = Long-term Debt / Shareholders Funds

✓

FINAL ANSWER

Debt-Equity Ratio = 0.38 : 1

POV

SMIT SIR'S POV

Current liabilities are not included in long-term debt for this CBSE ratio.

WORKED EXAMPLE 12

Debt-Equity with Accumulated Loss

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Equity Share Capital Rs. 6,00,000, Reserves Rs. 2,00,000, debit balance of Statement of Profit and Loss Rs. 50,000, and Long-term Debt Rs. 3,00,000. Find Debt-Equity Ratio.

Step-by-step solution

1

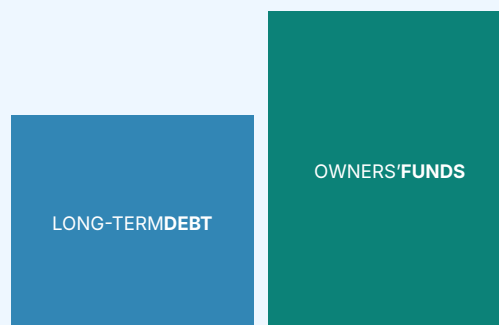
Step 1

Shareholders Funds = 6,00,000 + 2,00,000 - 50,000 = Rs. 7,50,000.

2

Step 2

Debt-Equity Ratio = 3,00,000 / 7,50,000 = 0.40 : 1.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Debt-Equity = Long-term Debt / Shareholders Funds

✓

FINAL ANSWER

Debt-Equity Ratio = 0.40 : 1

TIP

EXAM TIP

Accumulated losses reduce shareholders' funds.

WORKED EXAMPLE 13

Total Assets to Debt Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Total Assets are Rs. 24,00,000. Long-term borrowings are Rs. 4,00,000. Calculate Total Assets to Debt Ratio and interpret.

Step-by-step solution

1

Step 1

Formula = Total Assets / Long-term Debt.

2

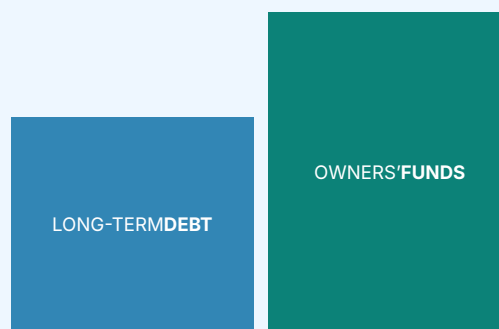
Step 2

$24,00,000 / 4,00,000 = 6$.

3

Step 3

Interpretation: total assets are six times the long-term debt.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Total Assets to Debt = Total Assets / Long-term Debt

✓

FINAL ANSWER

Total Assets to Debt Ratio = 6 : 1

POV

SMIT SIR'S POV

This ratio is an asset-coverage view. Higher coverage generally gives lenders more safety, subject to asset quality.

WORKED EXAMPLE 14

Proprietary Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Shareholders Funds are Rs. 15,00,000 and Total Assets are Rs. 25,00,000.
Calculate Proprietary Ratio.

Step-by-step solution

1

Step 1

Formula = Shareholders Funds / Total Assets.

2

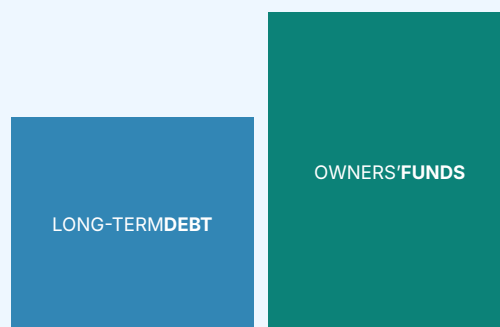
Step 2

$15,00,000 / 25,00,000 = 0.60$.

3

Step 3

It may be written as 0.60 : 1 or 60%.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Proprietary Ratio = Shareholders Funds / Total Assets

✓

FINAL ANSWER

Proprietary Ratio = 0.60 : 1 = 60%

TIP

EXAM TIP

If the question asks as a ratio, use :1. If interpretation is requested, percentage is often clearer.

WORKED EXAMPLE 15

Interest Coverage from NPAT

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Profit after tax is Rs. 2,40,000. Tax rate is 40%. 12% Debentures are Rs. 5,00,000 and 10% Long-term Loan is Rs. 2,00,000. Calculate Interest Coverage Ratio.

Step-by-step solution

1

Step 1

Profit before tax = $2,40,000 / (1 - 0.40) = \text{Rs. } 4,00,000$.

2

Step 2

Interest = 12% of 5,00,000 + 10% of 2,00,000 = 60,000 + 20,000 = Rs. 80,000.

3

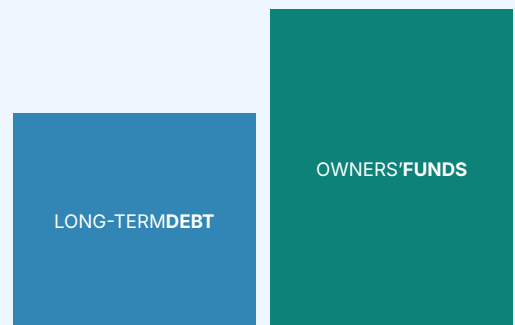
Step 3

EBIT = Profit before tax + Interest = 4,00,000 + 80,000 = Rs. 4,80,000.

4

Step 4

Interest Coverage = $4,80,000 / 80,000 = 6$ times.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Interest Coverage = EBIT / Interest

✓

FINAL ANSWER

Interest Coverage Ratio = 6 times

POV

SMIT SIR'S POV

If NPAT is given, remove tax first, then add interest. That reconstruction step is frequently tested.

WORKED EXAMPLE 16

Debt to Capital Employed

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Shareholders Funds Rs. 9,00,000 and Long-term Debt Rs. 3,00,000. Calculate Debt to Capital Employed Ratio.

Step-by-step solution

1

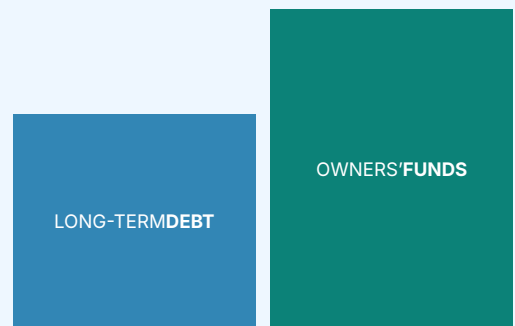
Step 1

Capital Employed = Shareholders Funds + Long-term Debt = Rs. 12,00,000.

2

Step 2

Debt to Capital Employed = $3,00,000 / 12,00,000 = 0.25 : 1$.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Debt to Capital Employed = Long-term Debt / Capital Employed

✓

FINAL ANSWER

Debt to Capital Employed Ratio = 0.25 : 1

TIP

EXAM TIP

Capital Employed can also be found as Total Assets - Current Liabilities.

WORKED EXAMPLE 17

Capital Employed - Asset Route

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Total Assets Rs. 18,00,000 and Current Liabilities Rs. 4,00,000. Long-term Debt is Rs. 5,00,000. Find Capital Employed and Debt to Capital Employed Ratio.

Step-by-step solution

1

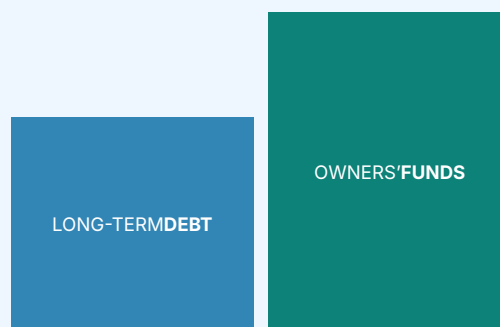
Step 1

Capital Employed = Total Assets - Current Liabilities = 18,00,000 - 4,00,000 = Rs. 14,00,000.

2

Step 2

Debt to Capital Employed = 5,00,000 / 14,00,000 = 0.357 : 1.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Formula → classify → substitute → interpret

FINAL ANSWER

✓

Capital Employed = Rs. 14,00,000; Debt to CE = 0.36 : 1

POV

SMIT SIR'S POV

Use whichever route needs fewer adjustments. Both routes should reconcile when the data is consistent.

WORKED EXAMPLE 18

Effect on Debt-Equity – Issue Equity Shares

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

A company has Long-term Debt Rs. 6,00,000 and Shareholders Funds Rs. 4,00,000. It issues Equity Shares for cash Rs. 2,00,000. Find the old and new Debt-Equity Ratios.

Step-by-step solution

1

Step 1

Old ratio = $6,00,000 / 4,00,000 = 1.50 : 1$.

2

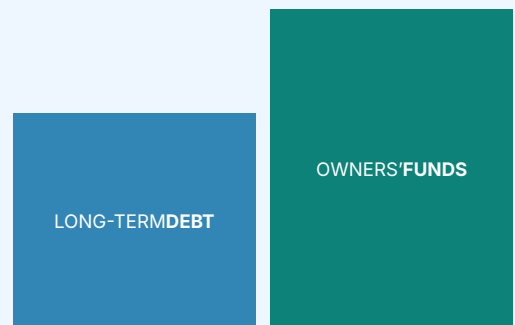
Step 2

Issue of equity increases Shareholders Funds to Rs. 6,00,000; debt is unchanged.

3

Step 3

New ratio = $6,00,000 / 6,00,000 = 1 : 1$.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Debt-Equity = Long-term Debt / Shareholders Funds

✓

FINAL ANSWER

Debt-Equity improves from 1.50 : 1 to 1 : 1

POV

SMIT SIR'S POV

Equity issue strengthens the denominator and reduces financial leverage.

WORKED EXAMPLE 19

Effect on Debt-Equity – Issue Debentures

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Long-term Debt is Rs. 4,00,000 and Shareholders Funds are Rs. 8,00,000. New debentures of Rs. 2,00,000 are issued for cash. Calculate revised Debt-Equity Ratio.

Step-by-step solution

1

Step 1

Old ratio = $4,00,000 / 8,00,000 = 0.50 : 1$.

2

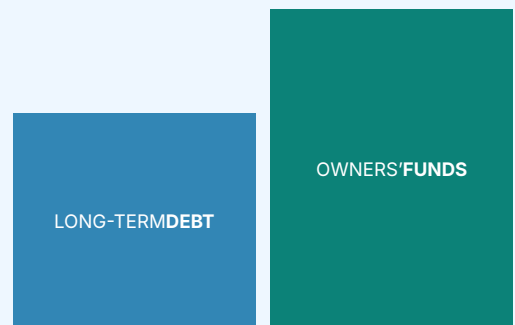
Step 2

New Long-term Debt = 6,00,000.

3

Step 3

New ratio = $6,00,000 / 8,00,000 = 0.75 : 1$.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Debt-Equity = Long-term Debt / Shareholders Funds

✓

FINAL ANSWER

Revised Debt-Equity Ratio = 0.75 : 1 (increases)

TIP

EXAM TIP

Increasing long-term debt increases leverage if equity is unchanged.

WORKED EXAMPLE 20

Integrated Solvency Set

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION


Share Capital Rs. 10,00,000; Reserves Rs. 3,00,000; Long-term Debt Rs. 4,00,000; Current Liabilities Rs. 2,00,000; Total Assets Rs. 19,00,000; EBIT Rs. 3,60,000; annual interest Rs. 60,000. Calculate Debt-Equity, Proprietary, Total Assets to Debt, Interest Coverage and Debt to Capital Employed.

Step-by-step solution

1
Step 1

Shareholders Funds = 10,00,000 + 3,00,000 = Rs. 13,00,000.

2
Step 2

Debt-Equity = 4,00,000 / 13,00,000 = 0.31 : 1.

3
Step 3

Proprietary = 13,00,000 / 19,00,000 = 68.42%.

4
Step 4

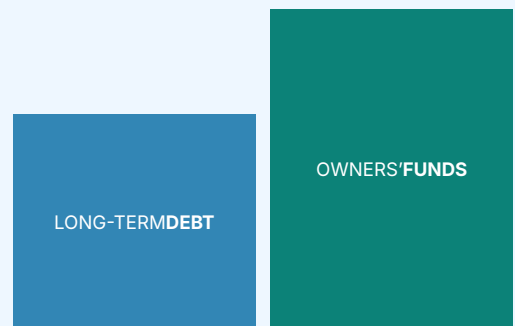
Total Assets to Debt = 19,00,000 / 4,00,000 = 4.75 : 1.

5
Step 5

Interest Coverage = 3,60,000 / 60,000 = 6 times.

6
Step 6

Capital Employed = 13,00,000 + 4,00,000 = Rs. 17,00,000; Debt to CE = 0.24 : 1.

VISUAL: FUNDING MIX


Solvency asks how safely long-term assets and commitments are financed.

Formula → classify → substitute → interpret

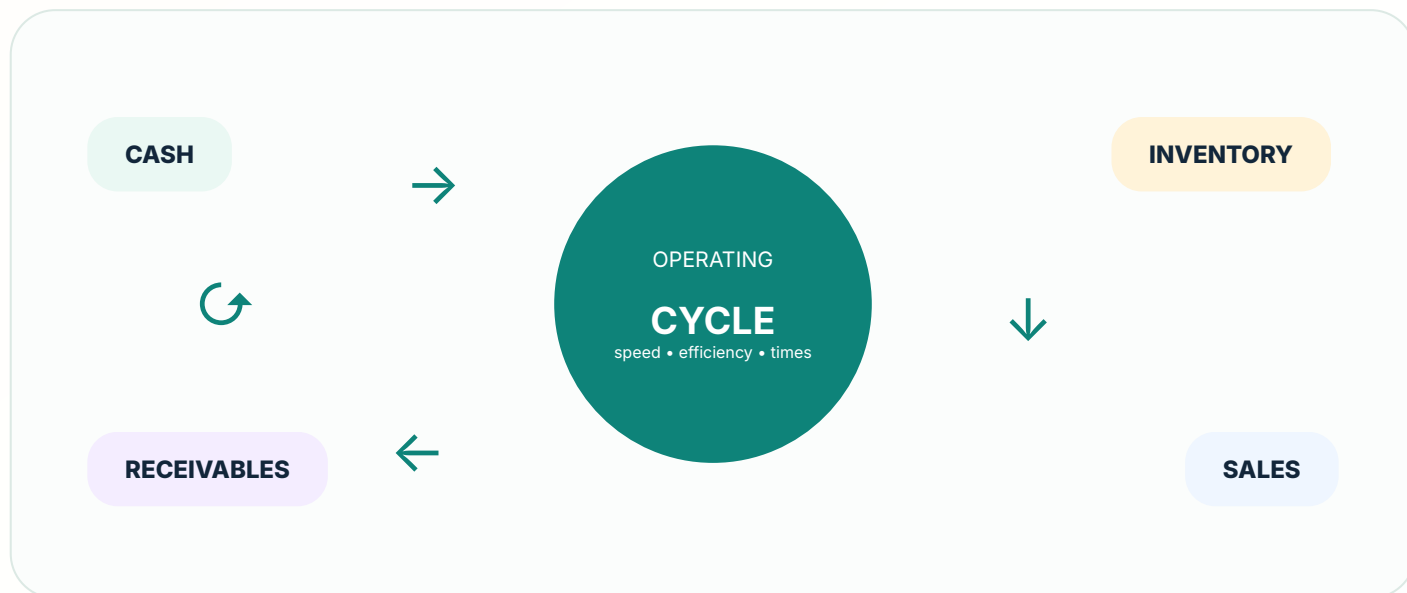

FINAL ANSWER

DE = 0.31:1; Proprietary = 68.42%; TA/Debt = 4.75:1; ICR = 6 times; Debt/CE = 0.24:1

8. ACTIVITY

Activity / Turnover Ratios

How fast and efficiently resources move through the operating cycle.



Activity ratios measure how efficiently resources move through the operating cycle. Most are expressed in "times". A higher turnover can indicate efficiency, but an excessively high figure may also signal inadequate investment in the resource.

Inventory Turnover

COGS / Average Inventory

Expressed in times

Trade Receivables Turnover

Net Credit Revenue / Average Trade Receivables

Expressed in times

Trade Payables Turnover

Net Credit Purchases / Average Trade Payables

Expressed in times

Fixed Asset Turnover

Net Revenue / Net Fixed Assets

Expressed in times

Net Asset Turnover

Net Revenue / Capital Employed

Expressed in times

Working Capital Turnover

Net Revenue / Working Capital

Expressed in times

WORKED EXAMPLE 21

Inventory Turnover – Direct

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION


Cost of Revenue from Operations is Rs. 9,00,000. Opening Inventory is Rs. 1,20,000 and Closing Inventory is Rs. 1,80,000. Calculate Inventory Turnover Ratio.

Step-by-step solution

1
Step 1

Average Inventory = $(1,20,000 + 1,80,000) / 2 =$
Rs. 1,50,000.

2
Step 2

Inventory Turnover = $9,00,000 / 1,50,000 = 6$ times.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Inventory Turnover = COGS / Average Inventory


FINAL ANSWER

Inventory Turnover Ratio = 6 times


EXAM TIP

Use average inventory when both opening and closing values are available.

WORKED EXAMPLE 22

COGS from Gross Profit on Sales

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Revenue from Operations is Rs. 12,00,000 and Gross Profit Ratio is 25%. Opening Inventory Rs. 1,50,000 and Closing Inventory Rs. 2,10,000. Calculate Inventory Turnover Ratio.

Step-by-step solution

1

Step 1

Gross Profit = 25% of 12,00,000 = Rs. 3,00,000.

2

Step 2

COGS = Net Sales - Gross Profit = 12,00,000 - 3,00,000 = Rs. 9,00,000.

3

Step 3

Average Inventory = $(1,50,000 + 2,10,000) / 2$ = Rs. 1,80,000.

4

Step 4

Inventory Turnover = $9,00,000 / 1,80,000$ = 5 times.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Inventory Turnover Ratio = 5 times

POV

SMIT SIR'S POV

Always convert a margin percentage into the required absolute profit before finding COGS.

WORKED EXAMPLE 23

Gross Profit on Cost – Convert Correctly

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Revenue from Operations is Rs. 10,00,000. Gross Profit is 25% on cost. Opening Inventory Rs. 1,00,000 and Closing Inventory Rs. 1,50,000. Find Inventory Turnover.

Step-by-step solution

1

Step 1

If GP is 25% on cost, Sales = 125% of cost.
Therefore COGS = $10,00,000 \times 100/125$ = Rs. 8,00,000.

2

Step 2

Average Inventory = $(1,00,000 + 1,50,000)/2$ = Rs. 1,25,000.

3

Step 3

Inventory Turnover = $8,00,000 / 1,25,000$ = 6.40 times.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Inventory Turnover Ratio = 6.40 times

TIP

EXAM TIP

"25% on cost" is not the same as "25% on sales".

WORKED EXAMPLE 24

Find Opening and Closing Inventory

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Inventory Turnover Ratio is 6 times. COGS is Rs. 7,20,000. Closing Inventory is Rs. 40,000 more than Opening Inventory. Find both inventories.

Step-by-step solution

1

Step 1

Average Inventory = $7,20,000 / 6 = \text{Rs. } 1,20,000$.

2

Step 2

Let Opening Inventory = x ; Closing Inventory = $x + 40,000$.

3

Step 3

$(x + x + 40,000) / 2 = 1,20,000$.

4

Step 4

$2x + 40,000 = 2,40,000$, so $x = \text{Rs. } 1,00,000$.

5

Step 5

Closing Inventory = Rs. 1,40,000.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Opening Inventory = Rs. 1,00,000; Closing Inventory = Rs. 1,40,000

POV

SMIT SIR'S POV

Turnover gives the average. The relationship between opening and closing lets you split that average.

WORKED EXAMPLE 25

Average Age of Inventory

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Inventory Turnover Ratio is 8 times. Calculate average age of inventory using 365 days.

Step-by-step solution

1

Step 1

Average Age = $365 / \text{Inventory Turnover Ratio}$.

2

Step 2

$365 / 8 = 45.625$ days.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Average Age of Inventory ~ 46 days

TIP

EXAM TIP

If the question specifies 12 months or 52 weeks, use that base instead of 365 days.

WORKED EXAMPLE 26

Receivables Turnover – Credit Sales

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION


Total Revenue from Operations Rs. 15,00,000; Cash Revenue Rs. 3,00,000; Sales Returns from credit sales Rs. 60,000. Opening Trade Receivables Rs. 1,20,000 and Closing Trade Receivables Rs. 1,80,000. Calculate Trade Receivables Turnover.

Step-by-step solution

1
Step 1

Credit Revenue before returns = $15,00,000 - 3,00,000 = \text{Rs. } 12,00,000$.

2
Step 2

Net Credit Revenue = $12,00,000 - 60,000 = \text{Rs. } 11,40,000$.

3
Step 3

Average Trade Receivables = $(1,20,000 + 1,80,000)/2 = \text{Rs. } 1,50,000$.

4
Step 4

Turnover = $11,40,000 / 1,50,000 = 7.60 \text{ times}$.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Receivables Turnover = Net Credit Sales / Average Trade Receivables


FINAL ANSWER

Trade Receivables Turnover = 7.60 times


SMIT SIR'S POV

Use credit sales, not total sales, when cash sales are known.

WORKED EXAMPLE 27

Average Collection Period

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation


QUESTION

Trade Receivables Turnover Ratio is 10 times. Calculate average collection period.

Step-by-step solution

1
Step 1

 Average Collection Period = $365 / 10 = 36.5$ days.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Collection Period = $365 / \text{Receivables Turnover}$

FINAL ANSWER
Average Collection Period ~ 37 days

EXAM TIP

Higher turnover usually means shorter collection period.

WORKED EXAMPLE 28

Find Opening Receivables

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Net Credit Revenue is Rs. 9,60,000; Receivables Turnover is 8 times; Closing Trade Receivables are Rs. 1,40,000. Find Opening Trade Receivables.

Step-by-step solution

1

Step 1

Average Trade Receivables = $9,60,000 / 8 = \text{Rs. } 1,20,000$.

2

Step 2

$(\text{Opening} + 1,40,000) / 2 = 1,20,000$.

3

Step 3

$\text{Opening} + 1,40,000 = 2,40,000$.

4

Step 4

Opening Trade Receivables = Rs. 1,00,000.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Opening Trade Receivables = Rs. 1,00,000

POV

SMIT SIR'S POV

Reverse turnover problems always begin by finding the average denominator.

WORKED EXAMPLE 29

Trade Payables Turnover

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Total Purchases Rs. 12,00,000; Cash Purchases Rs. 2,00,000; Purchase Returns out of credit purchases Rs. 40,000. Opening Trade Payables Rs. 1,40,000 and Closing Trade Payables Rs. 1,80,000. Calculate Trade Payables Turnover.

Step-by-step solution

1

Step 1

Credit Purchases before returns = 12,00,000 - 2,00,000 = Rs. 10,00,000.

2

Step 2

Net Credit Purchases = 10,00,000 - 40,000 = Rs. 9,60,000.

3

Step 3

Average Trade Payables = $(1,40,000 + 1,80,000)/2$
= Rs. 1,60,000.

4

Step 4

Turnover = $9,60,000 / 1,60,000 = 6$ times.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Payables Turnover = Net Credit Purchases / Average Trade Payables

✓

FINAL ANSWER

Trade Payables Turnover = 6 times

TIP

EXAM TIP

Subtract purchase returns only when they relate to credit purchases.

WORKED EXAMPLE 30

Average Payment Period

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation


QUESTION

Trade Payables Turnover is 5 times. Calculate average payment period.

Step-by-step solution

1
Step 1

 Average Payment Period = $365 / 5 = 73$ days.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Payment Period = $365 / \text{Payables Turnover}$

FINAL ANSWER
Average Payment Period = 73 days

SMIT SIR'S POV

Receivables and payables periods are mirror concepts: collection from customers vs payment to suppliers.

WORKED EXAMPLE 31

Fixed Asset Turnover

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Revenue from Operations Rs. 30,00,000 and Net Fixed Assets Rs. 12,00,000.
Calculate Fixed Asset Turnover.

Step-by-step solution

1

Step 1

Fixed Asset Turnover = $30,00,000 / 12,00,000 = 2.50$ times.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Fixed Asset Turnover = Net Sales / Net Fixed Assets

✓

FINAL ANSWER

Fixed Asset Turnover = 2.50 times

TIP

EXAM TIP

Use net fixed assets as per the ratio requirement.

WORKED EXAMPLE 32

Net Asset Turnover

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Net Revenue from Operations Rs. 36,00,000. Shareholders Funds Rs. 14,00,000 and Long-term Debt Rs. 4,00,000. Find Net Asset Turnover.

Step-by-step solution

1

Step 1

Capital Employed / Net Assets = 14,00,000 + 4,00,000 = Rs. 18,00,000.

2

Step 2

Net Asset Turnover = 36,00,000 / 18,00,000 = 2 times.

VISUAL: SPEED & EFFICIENCY

Turnover ratios measure how many times a resource cycles through operations.

Net Asset Turnover = Net Sales / Capital Employed

✓

FINAL ANSWER

Net Asset Turnover = 2 times

POV

SMIT SIR'S POV

"Net assets" here means capital employed, not total assets.

WORKED EXAMPLE 33

Working Capital Turnover

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Net Revenue from Operations is Rs. 25,00,000. Current Assets Rs. 7,00,000 and Current Liabilities Rs. 2,00,000. Calculate Working Capital Turnover.

Step-by-step solution

1

Step 1

Working Capital = $7,00,000 - 2,00,000 = \text{Rs. } 5,00,000$.

2

Step 2

Working Capital Turnover = $25,00,000 / 5,00,000 = 5 \text{ times}$.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Working Capital Turnover = Net Sales / Working Capital

✓

FINAL ANSWER

Working Capital Turnover = 5 times

TIP

EXAM TIP

Do not use current assets as the denominator. Use net working capital.

WORKED EXAMPLE 34

Integrated Activity Set

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

Net Sales Rs. 24,00,000; COGS Rs. 15,00,000; Opening Inventory Rs. 2,00,000; Closing Inventory Rs. 3,00,000; Average Trade Receivables Rs. 2,40,000; Average Trade Payables Rs. 1,50,000; Net Credit Sales Rs. 18,00,000; Net Credit Purchases Rs. 12,00,000; Working Capital Rs. 4,00,000. Calculate four turnover ratios.

Step-by-step solution

1
Step 1

Average Inventory = $(2,00,000 + 3,00,000) / 2 =$
Rs. 2,50,000.

2
Step 2

Inventory Turnover = $15,00,000 / 2,50,000 = 6$ times.

3
Step 3

Receivables Turnover = $18,00,000 / 2,40,000 =$
7.50 times.

4
Step 4

Payables Turnover = $12,00,000 / 1,50,000 = 8$ times.

5
Step 5

Working Capital Turnover = $24,00,000 / 4,00,000$
= 6 times.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Formula → classify → substitute → interpret

✓
FINAL ANSWER

Inventory = 6x; Receivables = 7.5x; Payables = 8x; Working Capital = 6x

POV
SMIT SIR'S POV

Integrated questions reward discipline: label every numerator and denominator before calculating.

WORKED EXAMPLE 35

Effect on Inventory Turnover

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

A business has COGS Rs. 10,00,000 and Average Inventory Rs. 2,00,000, so turnover is 5 times. Explain the likely direction if closing inventory is increased by Rs. 40,000 with all else unchanged.

Step-by-step solution

1

Step 1

Increasing closing inventory raises average inventory.

2

Step 2

COGS is assumed unchanged in this isolated effect question.

3

Step 3

A larger denominator with the same numerator reduces the turnover ratio.

VISUAL: SPEED & EFFICIENCY


Turnover ratios measure how many times a resource cycles through operations.

Inventory Turnover = COGS / Average Inventory

✓

FINAL ANSWER

Inventory Turnover decreases

POV

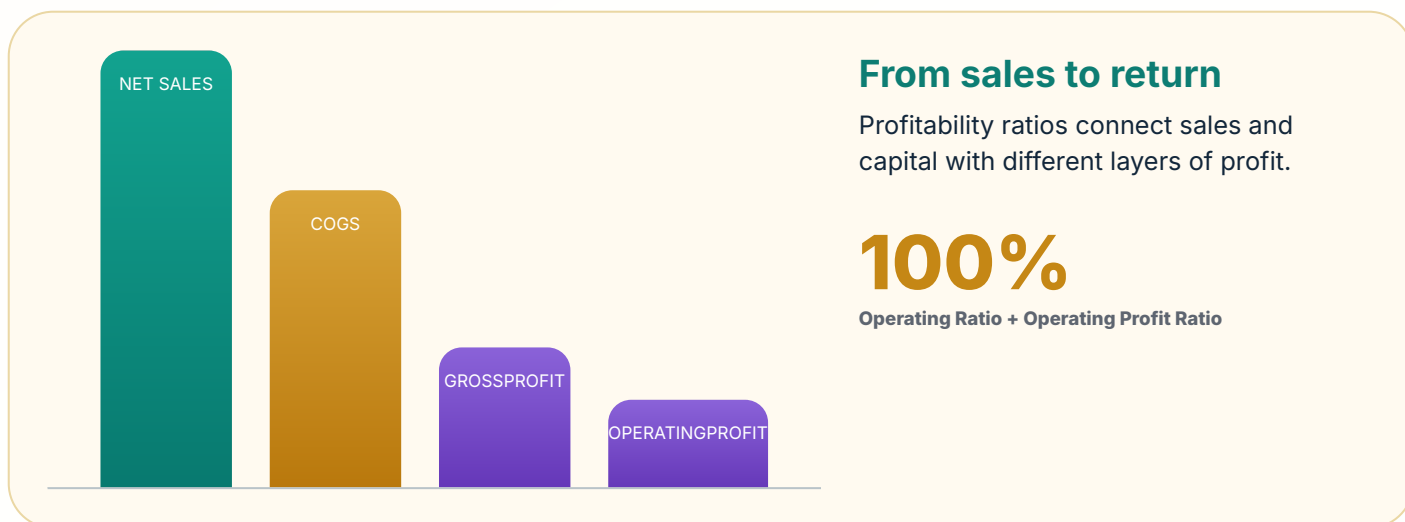
SMIT SIR'S POV

Effect questions are about direction. Think numerator, denominator, then direction.

9. PROFITABILITY

Profitability Ratios

Margins tell what you earn from sales. Returns tell what you earn from capital.


Gross Profit Ratio

$\text{Gross Profit} / \text{Net Revenue} \times 100$

Operating Ratio

$(\text{COGS} + \text{Operating Expenses}) / \text{Net Revenue} \times 100$

Operating Profit Ratio

$\text{Operating Profit} / \text{Net Revenue} \times 100$

Net Profit Ratio

$\text{Net Profit before or after tax} / \text{Net Revenue} \times 100$

Return on Investment

$\text{EBIT} / \text{Capital Employed} \times 100$

100
KEY RELATION

Operating Ratio + Operating Profit Ratio = 100%, when both are computed from the same Net Revenue from Operations and operating components.

WORKED EXAMPLE 36

Gross Profit Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Revenue from Operations Rs. 20,00,000 and COGS Rs. 14,00,000. Calculate Gross Profit Ratio.

Step-by-step solution

1

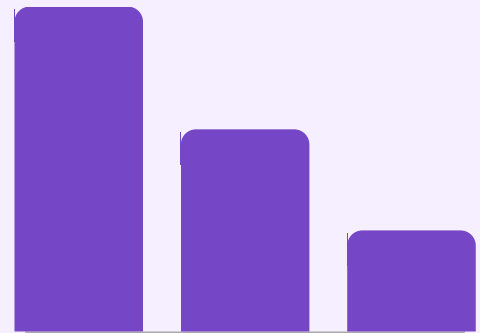
Step 1

Gross Profit = 20,00,000 - 14,00,000 = Rs. 6,00,000.

2

Step 2

GP Ratio = 6,00,000 / 20,00,000 × 100 = 30%.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Gross Profit Ratio = Gross Profit / Net Sales × 100

✓

FINAL ANSWER

Gross Profit Ratio = 30%

POV

SMIT SIR'S POV

A margin ratio uses sales as the denominator.

WORKED EXAMPLE 37

GP on Cost to GP Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation


QUESTION

A firm earns Gross Profit of 25% on cost. Find Gross Profit Ratio on sales.

Step-by-step solution

1
Step 1

Assume cost = 100. Gross Profit = 25, so Sales = 125.

2
Step 2

$$\text{GP Ratio} = 25 / 125 \times 100 = 20\%.$$
VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

$$\text{GP on Sales} = \text{GP} / \text{Sales} \times 100$$


FINAL ANSWER
Gross Profit Ratio = 20%

EXAM TIP

This conversion is worth memorising conceptually, not mechanically.

WORKED EXAMPLE 38

Operating Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Net Revenue from Operations Rs. 18,00,000; COGS Rs. 11,00,000; Administration Expenses Rs. 1,50,000; Selling Expenses Rs. 1,00,000. Calculate Operating Ratio.

Step-by-step solution

1

Step 1

Operating Expenses = 1,50,000 + 1,00,000 = Rs. 2,50,000.

2

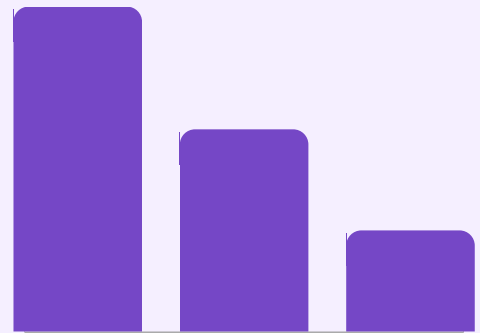
Step 2

Operating Cost = 11,00,000 + 2,50,000 = Rs. 13,50,000.

3

Step 3

Operating Ratio = $13,50,000 / 18,00,000 \times 100 = 75\%$.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Operating Ratio = Operating Cost / Net Sales × 100

✓

FINAL ANSWER

Operating Ratio = 75%

POV

SMIT SIR'S POV

Interest on long-term debt and non-operating losses are not operating expenses.

WORKED EXAMPLE 39

Operating Profit Ratio

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Using Net Revenue Rs. 18,00,000 and Operating Cost Rs. 13,50,000, calculate Operating Profit Ratio.

Step-by-step solution

1

Step 1

Operating Profit = $18,00,000 - 13,50,000 = \text{Rs. } 4,50,000$.

2

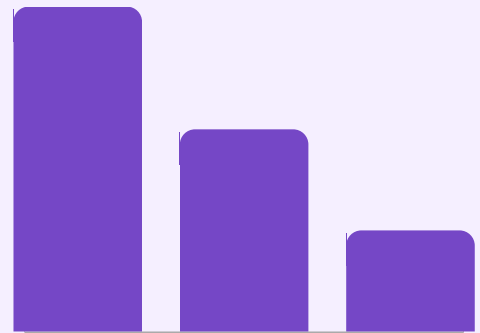
Step 2

Operating Profit Ratio = $4,50,000 / 18,00,000 \times 100 = 25\%$.

3

Step 3

Check: $75\% + 25\% = 100\%$.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Operating Profit Ratio = Operating Profit / Net Sales $\times 100$

✓

FINAL ANSWER

Operating Profit Ratio = 25%

TIP

EXAM TIP

Use the 100% check whenever both operating ratios are calculated.

WORKED EXAMPLE 40

Net Profit Ratio before Tax

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Net Revenue from Operations Rs. 25,00,000 and Net Profit before Tax Rs. 3,75,000. Calculate Net Profit Ratio before tax.

Step-by-step solution

1

Step 1

NP Ratio before tax = $3,75,000 / 25,00,000 \times 100$
= 15%.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Net Profit Ratio = Net Profit / Net Sales × 100

✓

FINAL ANSWER

Net Profit Ratio before tax = 15%

POV

SMIT SIR'S POV

State clearly whether you used profit before tax or after tax.

WORKED EXAMPLE 41

Net Profit Ratio after Tax

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Net Revenue Rs. 30,00,000, Profit before Tax Rs. 6,00,000 and Tax Rs. 1,50,000.
Calculate Net Profit Ratio after tax.

Step-by-step solution

1

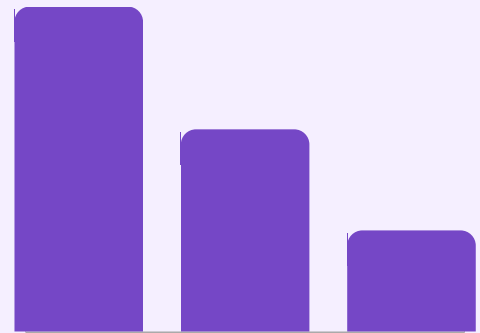
Step 1

Profit after tax = 6,00,000 - 1,50,000 = Rs. 4,50,000.

2

Step 2

NP Ratio after tax = $4,50,000 / 30,00,000 \times 100 = 15\%$.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Net Profit Ratio = Net Profit / Net Sales × 100

✓

FINAL ANSWER

Net Profit Ratio after tax = 15%

TIP

EXAM TIP

CBSE may ask Net Profit Ratio using profit before or after tax. Follow the wording.

WORKED EXAMPLE 42

ROI - Direct

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation


QUESTION

EBIT is Rs. 4,20,000 and Capital Employed is Rs. 21,00,000. Calculate ROI.

Step-by-step solution

1
Step 1

$$\text{ROI} = \text{EBIT} / \text{Capital Employed} \times 100.$$
2
Step 2

$$4,20,000 / 21,00,000 \times 100 = 20\%.$$
VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

$$\text{ROI} = \text{EBIT} / \text{Capital Employed} \times 100$$

FINAL ANSWER
ROI = 20%

SMIT SIR'S POV

ROI connects operating earnings with long-term funds employed in the business.

WORKED EXAMPLE 43

ROI - Reconstruct EBIT

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Profit after tax Rs. 1,80,000; tax rate 40%; interest on long-term debt Rs. 60,000; Capital Employed Rs. 12,00,000. Calculate ROI.

Step-by-step solution

1

Step 1

Profit before tax = $1,80,000 / 0.60$ = Rs. 3,00,000.

2

Step 2

EBIT = $3,00,000 + 60,000$ = Rs. 3,60,000.

3

Step 3

ROI = $3,60,000 / 12,00,000 \times 100$ = 30%.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

$$\text{ROI} = \text{EBIT} / \text{Capital Employed} \times 100$$

✓

FINAL ANSWER

ROI = 30%

POV

SMIT SIR'S POV

When NPAT is given, rebuild EBIT carefully. Do not add tax percentage directly to profit.

WORKED EXAMPLE 44

Operating Ratio Reverse Problem

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

?

QUESTION

Operating Ratio is 82%. Net Revenue from Operations is Rs. 20,00,000 and Operating Expenses are Rs. 2,40,000. Find COGS.

Step-by-step solution

1

Step 1

Operating Cost = 82% of 20,00,000 = Rs. 16,40,000.

2

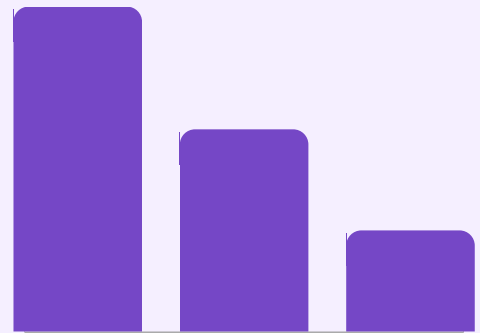
Step 2

Operating Cost = COGS + Operating Expenses.

3

Step 3

COGS = 16,40,000 - 2,40,000 = Rs. 14,00,000.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Operating Ratio = Operating Cost / Net Sales × 100

✓

FINAL ANSWER

COGS = Rs. 14,00,000

TIP

EXAM TIP

Reverse percentage questions are easiest when you first convert the ratio into the absolute total.

WORKED EXAMPLE 45

Gross Profit from Inventory Turnover

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Average Inventory Rs. 1,20,000; Inventory Turnover 5 times; Net Revenue Rs. 8,00,000. Find COGS and Gross Profit Ratio.

Step-by-step solution

1

Step 1

$\text{COGS} = 5 \times 1,20,000 = \text{Rs. } 6,00,000.$

2

Step 2

$\text{Gross Profit} = 8,00,000 - 6,00,000 = \text{Rs. } 2,00,000.$

3

Step 3

$\text{GP Ratio} = 2,00,000 / 8,00,000 \times 100 = 25\%.$

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Inventory Turnover = $\text{COGS} / \text{Average Inventory}$

✓

FINAL ANSWER

COGS = Rs. 6,00,000; GP Ratio = 25%

POV

SMIT SIR'S POV

Ratios can be chained together. Use one ratio to derive a figure needed by another.

WORKED EXAMPLE 46

Compare Two Years Correctly

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Year 1: Sales Rs. 10,00,000, Gross Profit Rs. 2,50,000. Year 2: Sales Rs. 16,00,000, Gross Profit Rs. 3,20,000. Comment on gross profitability.

Step-by-step solution

1

Step 1

Year 1 GP Ratio = $2,50,000 / 10,00,000 \times 100 = 25\%$.

2

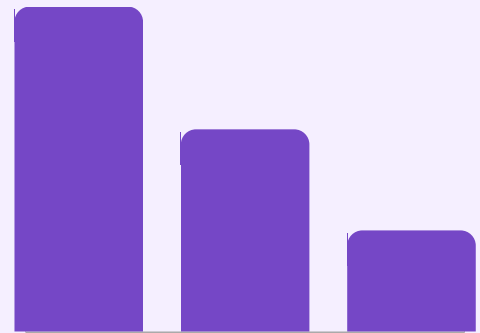
Step 2

Year 2 GP Ratio = $3,20,000 / 16,00,000 \times 100 = 20\%$.

3

Step 3

Absolute GP increased, but gross margin fell by 5 percentage points.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Formula → classify → substitute → interpret

FINAL ANSWER

✓

Gross profitability deteriorated from 25% to 20% despite higher absolute gross profit.

POV

SMIT SIR'S POV

This is why ratios are useful: bigger profit does not always mean better margin.

WORKED EXAMPLE 47

Integrated Profitability Set

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION


Net Revenue Rs. 40,00,000; COGS Rs. 26,00,000; Operating Expenses Rs. 6,00,000; Non-operating Income Rs. 1,00,000; Interest Rs. 1,20,000; Tax Rs. 1,80,000. Calculate GP Ratio, Operating Ratio, Operating Profit Ratio, Net Profit Ratio after tax (assuming all remaining profit is net profit after listed items).

Step-by-step solution

1
Step 1

Gross Profit = $40,00,000 - 26,00,000 = \text{Rs. } 14,00,000$; GP Ratio = 35%.

2
Step 2

Operating Cost = $26,00,000 + 6,00,000 = \text{Rs. } 32,00,000$; Operating Ratio = 80%.

3
Step 3

Operating Profit = 8,00,000; Operating Profit Ratio = 20%.

4
Step 4

Profit before tax = Operating Profit + Non-operating Income - Interest = $8,00,000 + 1,00,000 - 1,20,000 = \text{Rs. } 7,80,000$.

5
Step 5

Profit after tax = $7,80,000 - 1,80,000 = \text{Rs. } 6,00,000$.

6
Step 6

Net Profit Ratio after tax = $6,00,000 / 40,00,000 \times 100 = 15\%$.

VISUAL: MARGIN / RETURN


Follow the path from revenue to profit, then express it as a percentage or return.

Formula → classify → substitute → interpret


FINAL ANSWER

GP 35%; Operating Ratio 80%; Operating Profit 20%; NP Ratio after tax 15%

10. INTERPRETATION

How to Interpret Ratios Like a Teacher

A ratio movement is a clue — never a complete verdict.

Ratio movement	Possible interpretation	Important caution
Current / Quick ratio rises	Stronger short-term cushion	Could also mean idle current assets or slow inventory/receivables
Debt-Equity rises	Higher financial leverage	May increase risk; effect on return depends on cost of debt vs ROI
Interest Coverage rises	More comfortable interest servicing	Check whether EBIT is sustainable
Inventory Turnover rises	Inventory moves faster	Too high can indicate stock-outs / insufficient inventory
Receivables Turnover rises	Faster collection	Could reflect very tight credit policy affecting sales
Payables Turnover rises	Faster supplier payment	May improve credit standing but reduce cash flexibility
GP Ratio rises	Better gross margin	Could be price increase, lower cost, product mix or inventory valuation
Operating Ratio falls	Better operating efficiency	Check whether costs were merely deferred or one-off

WRITE
EXAM INTERPRETATION TEMPLATE

"The ratio changed from ___ to ___. This indicates ___. However, the conclusion should be read with trend/industry context because ratio analysis does not explain the cause by itself."

11. ERROR PROOFING

The 20 Most Common Ratio Mistakes

Fix these before they cost marks.

- 1 Using total sales instead of net revenue from operations after returns.
- 2 Using total purchases instead of net credit purchases for payables turnover.
- 3 Forgetting cash sales while computing credit sales.
- 4 Using closing inventory when opening and closing are both available.
- 5 Deducting long-term debt in liquidity ratios.
- 6 Including current liabilities in long-term debt for Debt-Equity Ratio.
- 7 Using total assets instead of capital employed for Net Asset Turnover.
- 8 Using current assets instead of working capital for Working Capital Turnover.
- 9 Including interest on long-term debt as an operating expense.
- 10 Forgetting to remove tax before reconstructing PBT from NPAT.
- 11 Confusing "25% on cost" with "25% on sales".
- 12 Using Gross Profit instead of COGS in Inventory Turnover.
- 13 Ignoring Bills Receivable in trade receivables.
- 14 Ignoring Bills Payable in trade payables.
- 15 Deducting provision for doubtful debts when the question expects gross trade receivables.
- 16 Mixing opening and closing figures without averaging when both are given.
- 17 Writing ratio answers as percentages when "times" is required.
- 18 Writing turnover ratios as ":1" instead of "times".
- 19 Calling every high ratio good without interpretation.
- 20 Rounding too early and creating final-answer errors.

!

FASTEST SELF-CHECK

Before calculating, underline: NET figures, CREDIT figures, AVERAGE balances and the correct denominator.

12. MASTER SHEET

Master Formula Sheet

One page to revise the architecture before practice.

LIQUIDITY

Current Ratio $\frac{CA}{CL}$

Quick Ratio $\frac{\text{Quick Assets}}{CL}$

SOLVENCY

Debt-Equity $\frac{LT\ Debt}{\text{Shareholders Funds}}$

Total Assets to Debt $\frac{\text{Total Assets}}{LT\ Debt}$

Proprietary $\frac{\text{Shareholders Funds}}{\text{Total Assets}}$

Interest Coverage $\frac{EBIT}{\text{Interest}}$

Debt to CE $\frac{LT\ Debt}{\text{Capital Employed}}$

ACTIVITY

Inventory Turnover $\frac{COGS}{\text{Avg Inventory}}$

Receivables Turnover $\frac{\text{Net Credit Sales}}{\text{Avg TR}}$

Payables Turnover $\frac{\text{Net Credit Purchases}}{\text{Avg TP}}$

Fixed Asset Turnover $\frac{\text{Net Sales}}{\text{Net Fixed Assets}}$

Net Asset Turnover $\frac{\text{Net Sales}}{\text{Capital Employed}}$

WC Turnover $\frac{\text{Net Sales}}{\text{Working Capital}}$

PROFITABILITY

GP Ratio $\frac{GP}{\text{Net Sales}} \times 100$

Operating Ratio $\frac{\text{Operating Cost}}{\text{Net Sales}} \times 100$

Operating Profit Ratio $\frac{\text{Operating Profit}}{\text{Net Sales}} \times 100$

NP Ratio $\frac{\text{NP before/after tax}}{\text{Net Sales}} \times 100$

ROI $\frac{EBIT}{\text{Capital Employed}} \times 100$

Remember the denominator:

Liquidity → liabilities

Solvency → long-term funding / assets

Activity → resource base

Profitability → sales or capital

WORKED EXAMPLE 48

Integrated Balance Sheet Ratios

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Given: Shareholders Funds Rs. 12,00,000; Long-term Debt Rs. 4,00,000; Current Liabilities Rs. 4,00,000; Non-current Assets Rs. 11,00,000; Inventory Rs. 3,00,000; Trade Receivables Rs. 4,00,000; Cash Rs. 2,00,000. Calculate Current, Quick, Debt-Equity, Proprietary and Debt to Capital Employed ratios.

Step-by-step solution

1

Step 1

Total Current Assets = 3,00,000 + 4,00,000 + 2,00,000 = Rs. 9,00,000.

2

Step 2

Current Ratio = 9,00,000 / 4,00,000 = 2.25 : 1.

3

Step 3

Quick Assets = 9,00,000 - 3,00,000 = Rs. 6,00,000; Quick Ratio = 1.50 : 1.

4

Step 4

Debt-Equity = 4,00,000 / 12,00,000 = 0.33 : 1.

5

Step 5

Total Assets = 11,00,000 + 9,00,000 = Rs. 20,00,000; Proprietary = 12,00,000 / 20,00,000 = 60%.

6

Step 6

Capital Employed = 12,00,000 + 4,00,000 = Rs. 16,00,000; Debt/CE = 25%.

VISUAL: RATIO DASHBOARD

Liquidity

Solvency

Activity

Profitability

Integrated questions connect several ratio families through shared figures.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

CR 2.25:1; QR 1.50:1; DE 0.33:1; Proprietary 60%; Debt/CE 25%

WORKED EXAMPLE 49

Integrated Trading + Turnover + Margin

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Sales Rs. 18,00,000; Purchases Rs. 11,00,000; Purchase Returns Rs. 50,000; Direct Expenses Rs. 1,50,000; Opening Inventory Rs. 2,00,000; Closing Inventory Rs. 2,50,000; Operating Expenses Rs. 2,70,000. Calculate COGS, GP Ratio, Inventory Turnover, Operating Ratio and Operating Profit Ratio.

Step-by-step solution

1

Step 1

Net Purchases = $11,00,000 - 50,000 = \text{Rs. } 10,50,000$.

2

Step 2

COGS = $2,00,000 + 10,50,000 + 1,50,000 - 2,50,000 = \text{Rs. } 11,50,000$.

3

Step 3

Gross Profit = $18,00,000 - 11,50,000 = \text{Rs. } 6,50,000$; GP Ratio = 36.11%.

4

Step 4

Average Inventory = $(2,00,000 + 2,50,000)/2 = \text{Rs. } 2,25,000$; Inventory Turnover = 5.11 times.

5

Step 5

Operating Cost = $11,50,000 + 2,70,000 = \text{Rs. } 14,20,000$; Operating Ratio = 78.89%.

6

Step 6

Operating Profit Ratio = 21.11%.

VISUAL: RATIO DASHBOARD

Liquidity

Solvency

Activity

Profitability

Integrated questions connect several ratio families through shared figures.

Formula → classify → substitute → interpret

FINAL ANSWER

✓

COGS Rs. 11,50,000; GP 36.11%; Inventory 5.11x; Operating Ratio 78.89%; Operating Profit 21.11%

WORKED EXAMPLE 50

Integrated Receivables + Payables Cycle

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Credit Sales Rs. 24,00,000; Opening Receivables Rs. 2,00,000; Closing Receivables Rs. 3,00,000; Net Credit Purchases Rs. 15,00,000; Opening Payables Rs. 1,20,000; Closing Payables Rs. 1,80,000. Calculate receivables turnover, collection period, payables turnover and payment period.

Step-by-step solution

1

Step 1

Average Receivables = $(2,00,000 + 3,00,000)/2 =$ Rs. 2,50,000.

2

Step 2

Receivables Turnover = $24,00,000 / 2,50,000 =$ 9.60 times; Collection Period = $365/9.60 \sim 38$ days.

3

Step 3

Average Payables = $(1,20,000 + 1,80,000)/2 =$ Rs. 1,50,000.

4

Step 4

Payables Turnover = $15,00,000 / 1,50,000 = 10$ times; Payment Period = 36.5 days.

VISUAL: RATIO DASHBOARD

Liquidity

Solvency

Activity

Profitability

Integrated questions connect several ratio families through shared figures.

Formula → classify → substitute → interpret

✓

FINAL ANSWER

Receivables 9.60x / 38 days; Payables 10x / 37 days

POV

SMIT SIR'S POV

Comparing collection and payment periods can reveal working-capital pressure, but only after considering business terms and industry norms.

WORKED EXAMPLE 51

Integrated ROI + Interest Coverage

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Profit after tax Rs. 3,00,000; tax rate 25%; interest on long-term debt Rs. 1,00,000; Shareholders Funds Rs. 12,00,000; Long-term Debt Rs. 4,00,000. Calculate EBIT, Interest Coverage and ROI.

Step-by-step solution

1

Step 1
 $PBT = 3,00,000 / 0.75 = \text{Rs. } 4,00,000.$

2

Step 2
 $EBIT = 4,00,000 + 1,00,000 = \text{Rs. } 5,00,000.$

3

Step 3
 $\text{Interest Coverage} = 5,00,000 / 1,00,000 = 5 \text{ times.}$

4

Step 4
 $\text{Capital Employed} = 12,00,000 + 4,00,000 = \text{Rs. } 16,00,000.$

5

Step 5
 $ROI = 5,00,000 / 16,00,000 \times 100 = 31.25\%.$
VISUAL: RATIO DASHBOARD

Liquidity

Solvency

Activity

Profitability

Integrated questions connect several ratio families through shared figures.

 $\text{Interest Coverage} = EBIT / \text{Interest}$

✓

FINAL ANSWER
EBIT Rs. 5,00,000; ICR 5x; ROI 31.25%

POV

SMIT SIR'S POV

EBIT is the common bridge between solvency and profitability in this chapter.

WORKED EXAMPLE 52

Full Ratio Dashboard

Concepts • Formula Logic • Worked Numericals • Reverse Problems • Interpretation

QUESTION

?

Net Sales Rs. 50,00,000; COGS Rs. 32,00,000; Operating Expenses Rs. 8,00,000; NPAT Rs. 6,00,000; tax Rs. 2,00,000; interest Rs. 1,00,000; CA Rs. 15,00,000; inventory Rs. 5,00,000; CL Rs. 6,00,000; LT Debt Rs. 8,00,000; Shareholders Funds Rs. 20,00,000; average inventory Rs. 4,00,000. Calculate eight key ratios.

VISUAL: RATIO DASHBOARD

Liquidity

Solvency

Activity

Profitability

Integrated questions connect several ratio families through shared figures.

Formula → classify → substitute → interpret

13. BOARD MASTERY

Board-Exam Presentation Method

A neat method can protect marks even when the question is integrated.

1

Write the formula before substitution.

2

Show one clean working note for composite figures such as COGS, capital employed or average receivables.

3

Use correct units: “:1” for structural ratios, “times” for turnover/coverage, “%” for margin/return ratios.

4

Do not round intermediate values too early. Round final answers sensibly.

5

When interpretation is asked, give one direct sentence tied to the ratio and one caution if necessary.

6

For “effect of transaction” questions, write old ratio → transaction effect → new numerator/denominator → conclusion.

10s
SMIT SIR'S 10-SECOND CHECK

Before finalising: Have I used NET sales? CREDIT figures where required? AVERAGE balances when opening and closing are given? Correct unit? Correct classification?



14. BOARD MASTERY

Premium MCQ Bank • 1-5

Choose the best answer — then explain why the other options fail.

1

Current Ratio measures primarily:

- A** Profitability
- B** Short-term liquidity
- C** Long-term solvency
- D** Efficiency

2

Quick assets normally exclude:

- A** Cash
- B** Trade receivables
- C** Inventory
- D** Current investments

3

Debt-Equity Ratio uses:

- A** Current debt / Equity
- B** Long-term debt / Shareholders funds
- C** Total liabilities / Total assets
- D** Interest / EBIT

4

A higher Interest Coverage Ratio generally indicates:

- A** Lower ability to pay interest
- B** Greater interest-servicing cushion
- C** Higher inventory
- D** Lower sales

5

Inventory Turnover Ratio denominator is normally:

- A** Closing inventory
- B** Average inventory
- C** Purchases
- D** Sales

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 6-10

Choose the best answer — then explain why the other options fail.

6
Trade Receivables Turnover uses:

- A** Total sales
- B** Cash sales
- C** Net credit revenue from operations
- D** Purchases

7
Working Capital Turnover denominator is:

- A** Current assets
- B** Current liabilities
- C** Current assets - current liabilities
- D** Fixed assets

8
Operating Ratio + Operating Profit Ratio is normally:

- A** 50%
- B** 100%
- C** 200%
- D** Cannot be related

9
ROI numerator is:

- A** NPAT
- B** Gross Profit
- C** EBIT/PBIT
- D** Operating Cost

10
If GP is 25% on cost, GP Ratio on sales is:

- A** 25%
- B** 20%
- C** 33.33%
- D** 75%

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 11-15

Choose the best answer — then explain why the other options fail.

11

If current ratio is above 1, paying a current liability in cash generally:

- A** Improves it
- B** Reduces it
- C** No change
- D** Makes it zero

12

Credit purchase of inventory when CR is above 1 generally:

- A** Improves CR
- B** Reduces CR
- C** No effect
- D** Eliminates working capital

13

Average Collection Period is commonly:

- A** $365 \times \text{Receivables Turnover}$
- B** $365 / \text{Receivables Turnover}$
- C** $\text{Credit Sales} / 365$
- D** $\text{Receivables} / 365$

14

Trade Payables include:

- A** Debtors + B/R
- B** Creditors + B/P
- C** Cash + Bank
- D** Inventory + WIP

15

Capital Employed can be found as:

- A** $\text{CA} - \text{CL}$
- B** $\text{Total Assets} - \text{Current Liabilities}$
- C** $\text{Sales} - \text{Expenses}$
- D** $\text{Debt} - \text{Equity}$

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 16-20

Choose the best answer — then explain why the other options fail.

16

Proprietary Ratio shows relationship of:

- A** Shareholders funds to total assets
- B** Debt to sales
- C** Profit to sales
- D** Current assets to current liabilities

17

A turnover ratio is usually expressed in:

- A** Percent
- B** Rupees
- C** Times
- D** :1 only

18

A margin ratio is usually expressed in:

- A** Times
- B** Percent
- C** Days
- D** :1 only

19

Net Asset Turnover denominator is:

- A** Total assets
- B** Capital employed / Net assets
- C** Inventory
- D** Current assets

20

Fixed Asset Turnover numerator is:

- A** Net revenue from operations
- B** COGS
- C** Net profit
- D** Credit sales

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 21-25

Choose the best answer — then explain why the other options fail.

21

An excessively high current ratio may indicate:

- A** Only excellent management
- B** Idle current assets
- C** No liquidity
- D** No inventory

22

Ratio analysis ignores primarily:

- A** Monetary data
- B** Qualitative factors
- C** Financial statements
- D** Arithmetic

23

If only closing trade receivables are available, NCERT treatment generally uses:

- A** Zero
- B** Closing figure as available
- C** Half of closing
- D** Double closing

24

If NPAT is Rs. 2,40,000 and tax rate 40%, PBT is:

- A** Rs. 3,36,000
- B** Rs. 4,00,000
- C** Rs. 1,44,000
- D** Rs. 6,00,000

25

If EBIT is Rs. 5,00,000 and interest Rs. 1,00,000, ICR is:

- A** 4x
- B** 5x
- C** 6x
- D** 20%

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 26-30

Choose the best answer — then explain why the other options fail.

26

If Net Sales Rs. 10,00,000 and GP Rs. 3,00,000, GP ratio is:

- A** 70%
C 3x

- B** 30%
D 33.33%

27

If Operating Ratio is 78%, Operating Profit Ratio is:

- A** 22%
C 178%

- B** 78%
D Cannot determine

28

Average Inventory when opening 80,000 and closing 1,20,000 is:

- A** 80,000
C 1,20,000

- B** 1,00,000
D 2,00,000

29

If COGS 6,00,000 and average inventory 1,00,000, turnover is:

- A** 6%
C 0.17 times

- B** 6 times
D Rs. 6

30

Net credit purchases are used for:

- A** Receivables turnover
C GP ratio

- B** Payables turnover
D Current ratio

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 31-35

Choose the best answer — then explain why the other options fail.

31
Debt to Capital Employed Ratio equals:

- A** LT Debt / Capital Employed
- C** Debt / Sales

- B** Current liabilities / CA
- D** Interest / Debt

32
Share issue for cash usually does what to current ratio?

- A** Improves, other things constant
- C** No effect

- B** Reduces
- D** Makes it 1

33
Purchase of goods for cash does what to current ratio?

- A** Usually no change in total CA
- C** Always reduces

- B** Always improves
- D** Changes CL

34
Sale of inventory at profit for cash generally:

- A** Improves current ratio
- C** No change in CA

- B** Reduces current ratio
- D** Increases CL

35
Gross profit on cost 20% equals GP ratio on sales of:

- A** 20%
- C** 25%

- B** 16.67%
- D** 80%

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

Premium MCQ Bank • 36-40

Choose the best answer — then explain why the other options fail.

36
ROI compares EBIT with:

- A** Current liabilities
- B** Capital employed
- C** Sales returns
- D** Inventory

37
A low inventory turnover may suggest:

- A** Slow moving / excess inventory
- B** Very fast sales only
- C** No stock
- D** High interest coverage

38
A high receivables turnover generally suggests:

- A** Slower collection
- B** Faster collection
- C** Higher debt
- D** Lower GP

39
Ratio analysis is best described as:

- A** A final decision by itself
- B** An analytical aid requiring interpretation
- C** A replacement for financial statements
- D** Only a tax calculation

40
The current CBSE ratio family does NOT treat which as a core profitability ratio here?

- A** Gross Profit Ratio
- B** Operating Ratio
- C** Net Profit Ratio
- D** Dividend Payout Ratio

DO NOT GUESS FROM MEMORY → identify the family → recall the denominator → eliminate distractors.

14. BOARD MASTERY

MCQ Answer Key

Check only after completing all 40 questions.

1 B	2 C	3 B	4 B	5 B	6 C	7 C	8 B
9 C	10 B	11 A	12 B	13 B	14 B	15 B	16 A
17 C	18 B	19 B	20 A	21 B	22 B	23 B	24 B
25 B	26 B	27 A	28 B	29 B	30 B	31 A	32 A
33 A	34 A	35 B	36 B	37 A	38 B	39 B	40 D

Turn mistakes into marks:

1. Mark the ratio family

2. Write the correct formula

3. Explain why your option was wrong

4. Retry after 24 hours

15. BOARD MASTERY

Assertion-Reason • 1-4

A = Assertion • R = Reason • Decide truth first, then relation.

A: Both true & R explains A | B: Both true but R does not explain A | C: A true, R false | D: A false, R true

A: Ratio analysis can identify problem areas.

1

R: Ratios automatically provide the solution to every problem.

Answer: C

A: Current ratio and quick ratio are liquidity ratios.

2

R: Both examine the firm's short-term paying capacity.

Answer: A

A: A high current ratio is always ideal.

3

R: Excessive current assets may indicate inefficient resource use.

Answer: D

A: Debt-Equity Ratio rises when long-term debt rises and equity is unchanged.

4

R: Its numerator increases while denominator remains the same.

Answer: A

15. BOARD MASTERY

Assertion-Reason • 5-8

A = Assertion • R = Reason • Decide truth first, then relation.

A: Both true & R explains A | B: Both true but R does not explain A | C: A true, R false | D: A false, R true

A: Interest Coverage Ratio is based on EBIT.

5

R: Interest is paid out of profit available before interest and tax.

Answer: A

A: Trade Receivables Turnover should use credit revenue.

6

R: Trade receivables arise mainly from credit sales.

Answer: A

A: Inventory Turnover is COGS divided by average inventory.

7

R: Using average inventory connects flow for the year with representative stock level.

Answer: A

A: Operating Ratio and Operating Profit Ratio generate total 100%.

8

R: They divide operating cost and operating profit by the same net revenue base.

Answer: A

15. BOARD MASTERY

Assertion-Reason • 9-12

A = Assertion • R = Reason • Decide truth first, then relation.

A: Both true & R explains A | B: Both true but R does not explain A | C: A true, R false | D: A false, R true

A: ROI uses NPAT as numerator.

9

R: ROI measures return on total capital before financing cost, so EBIT is used.

Answer: D

A: Proprietary Ratio indicates owners' contribution to financing assets.

10

R: It relates shareholders funds to total assets.

Answer: A

A: Ratio analysis ignores qualitative factors.

11

R: Ratios are derived from monetary financial-statement data.

Answer: A

A: A ratio can be meaningful even when its two figures are unrelated.

12

R: Any two numbers can be divided mathematically.

Answer: D

16. CASE-BASED PRACTICE

Case 1 - Liquidity Decision

Read the story → build missing figures → calculate → interpret.

CASE

A retailer has Current Assets Rs. 12,00,000 including Inventory Rs. 5,00,000 and Prepaid Expenses Rs. 50,000. Current Liabilities are Rs. 6,00,000. It plans to pay Rs. 1,00,000 of current liabilities in cash.

1

Compute current ratio before payment.

2

Compute quick ratio before payment.

3

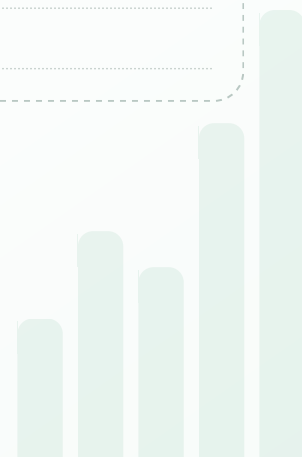
Compute current ratio after payment.

4

Explain why the direction changed.

DO
TEACHER INSTRUCTION

Solve without looking at the formula sheet. After finishing, explain each answer in one sentence.

WORKING SPACE


16. CASE-BASED PRACTICE

Case 2 - Financing Choice

Read the story → build missing figures → calculate → interpret.

CASE

A company has Shareholders Funds Rs. 15,00,000 and Long-term Debt Rs. 6,00,000. It needs Rs. 3,00,000 and is considering either equity issue or debentures.

1

Compute present Debt-Equity Ratio.

2

Compute ratio if equity is issued.

3

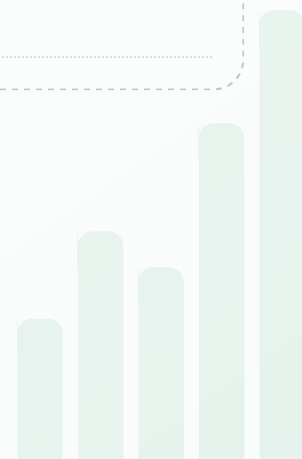
Compute ratio if debentures are issued.

4

Which option raises financial leverage?

DO
TEACHER INSTRUCTION

Solve without looking at the formula sheet. After finishing, explain each answer in one sentence.

WORKING SPACE


16. CASE-BASED PRACTICE

Case 3 - Operating Efficiency

Read the story → build missing figures → calculate → interpret.

CASE

Net Sales Rs. 30,00,000; COGS Rs. 18,00,000; Opening Inventory Rs. 2,40,000; Closing Inventory Rs. 3,60,000; average receivables Rs. 2,50,000; credit sales Rs. 20,00,000.

1

Compute GP ratio.

2

Compute inventory turnover.

3

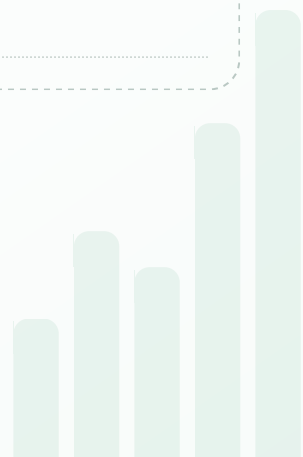
Compute receivables turnover.

4

Compute average collection period.

DO
TEACHER INSTRUCTION

Solve without looking at the formula sheet. After finishing, explain each answer in one sentence.

WORKING SPACE


16. CASE-BASED PRACTICE

Case 4 - Profit Reconstruction

Read the story → build missing figures → calculate → interpret.

CASE

NPAT Rs. 4,50,000; Tax rate 25%; Interest Rs. 1,00,000; Capital Employed Rs. 20,00,000; Net Sales Rs. 30,00,000.

1

Find PBT.

2

Find EBIT.

3

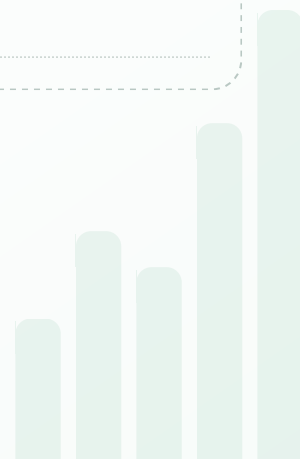
Compute Interest Coverage.

4

Compute ROI.

DO
TEACHER INSTRUCTION

Solve without looking at the formula sheet. After finishing, explain each answer in one sentence.

WORKING SPACE


16. CASE-BASED PRACTICE

Case 5 - Full Dashboard

Read the story → build missing figures → calculate → interpret.

CASE

CA Rs. 10,00,000; Inventory Rs. 3,00,000; CL Rs. 4,00,000; LT Debt Rs. 5,00,000; Equity Rs. 12,00,000; Total Assets Rs. 21,00,000.

1

Current ratio.

2

Quick ratio.

3

Debt-equity ratio.

4

Proprietary ratio.

5

Debt to capital employed ratio.

DO
TEACHER INSTRUCTION

Solve without looking at the formula sheet. After finishing, explain each answer in one sentence.

WORKING SPACE

17. PRACTICE

Practice Numericals • P1-P6

No formula sheet. Show formula, working, answer and unit.

P1

CA Rs. 9,60,000; CL Rs. 4,00,000. Find Current Ratio.

P2

Current Ratio 2.4:1 and Working Capital Rs. 4,20,000. Find CA and CL.

P3

CA Rs. 8,00,000 includes Inventory Rs. 2,20,000 and Prepaid Rs. 30,000; CL Rs. 3,00,000. Find Quick Ratio.

P4

CR 3:1, QR 1.5:1, CL Rs. 1,60,000. Find Inventory assuming no other non-quick CA.

P5

LT Debt Rs. 4,50,000; Equity Share Capital Rs. 7,00,000; Preference Capital Rs. 1,00,000; Reserves Rs. 2,00,000. Find Debt-Equity.

P6

Total Assets Rs. 30,00,000; LT Debt Rs. 5,00,000. Find Total Assets to Debt Ratio.

17. PRACTICE

Practice Numericals • P7-P12

No formula sheet. Show formula, working, answer and unit.

P7

Shareholders Funds Rs. 18,00,000; Total Assets Rs. 30,00,000. Find Proprietary Ratio.

P8

EBIT Rs. 7,20,000; Interest Rs. 1,20,000. Find ICR.

P9

Shareholders Funds Rs. 16,00,000; LT Debt Rs. 4,00,000. Find Debt to Capital Employed.

P10

COGS Rs. 12,00,000; opening inventory Rs. 1,80,000; closing inventory Rs. 2,20,000. Find Inventory Turnover.

P11

Inventory Turnover 8x; COGS Rs. 16,00,000. Closing inventory is Rs. 50,000 more than opening. Find both.

P12

Net Credit Sales Rs. 18,00,000; opening receivables Rs. 1,50,000; closing Rs. 2,10,000. Find receivables turnover and collection period.

17. PRACTICE

Practice Numericals • P13-P18

No formula sheet. Show formula, working, answer and unit.

P13

Net Credit Purchases Rs. 12,00,000; opening payables Rs. 1,00,000; closing Rs. 2,00,000. Find payables turnover and payment period.

P14

Net Sales Rs. 32,00,000; Net Fixed Assets Rs. 16,00,000. Find Fixed Asset Turnover.

P15

Net Sales Rs. 36,00,000; Capital Employed Rs. 18,00,000. Find Net Asset Turnover.

P16

Net Sales Rs. 25,00,000; CA Rs. 8,00,000; CL Rs. 3,00,000. Find Working Capital Turnover.

P17

Net Sales Rs. 20,00,000; COGS Rs. 13,00,000. Find GP Ratio.

P18

Net Sales Rs. 24,00,000; COGS Rs. 15,00,000; operating expenses Rs. 3,00,000. Find Operating Ratio and Operating Profit Ratio.

17. PRACTICE

Practice Numericals • P19-P24

No formula sheet. Show formula, working, answer and unit.

P19

NPBT Rs. 4,00,000; Net Sales Rs. 25,00,000. Find NP Ratio before tax.

P20

NPAT Rs. 3,00,000; Net Sales Rs. 30,00,000. Find NP Ratio after tax.

P21

EBIT Rs. 5,40,000; Capital Employed Rs. 27,00,000. Find ROI.

P22

NPAT Rs. 2,70,000, tax 40%, interest Rs. 50,000, CE Rs. 10,00,000. Find ROI and ICR.

P23

Old CR 2.5:1 with CA Rs. 5,00,000. Goods Rs. 1,00,000 purchased on credit. Find new CR.

P24

DE ratio before transaction: Debt Rs. 6,00,000, Equity Rs. 12,00,000. Company repays Rs. 2,00,000 LT debt in cash. Find revised DE ratio.

18. SOLUTIONS

Detailed Solutions • P1-P6

Compare method — not only the final number.

P1

$$9,60,000 / 4,00,000 = 2.40 : 1.$$

P2

$$\text{Let CL} = x, \text{ CA} = 2.4x. \text{ WC} = 1.4x = 4,20,000 \Rightarrow \\ \text{CL} = 3,00,000; \text{ CA} = 7,20,000.$$

P3

Quick
 $\text{Assets} = 8,00,000 - 2,20,000 - 30,000 = 5,50,000;$
 $\text{QR} = 5,50,000 / 3,00,000 = 1.83:1.$

P4

$$\text{CA} = 4,80,000; \text{ QA} = 2,40,000;$$

$$\text{Inventory} = 2,40,000.$$

P5

Shareholders
 $\text{Funds} = 7,00,000 + 1,00,000 + 2,00,000 = 10,00,000;$
 $\text{DE} = 4,50,000 / 10,00,000 = 0.45:1.$

P6

$$30,00,000 / 5,00,000 = 6:1.$$


SELF-CHECK

If your final answer differs, trace the first line where your classification or denominator changed.

18. SOLUTIONS

Detailed Solutions • P7-P12

Compare method — not only the final number.

P7
 $18,00,000/30,00,000=60\%$.

P8
 $7,20,000/1,20,000=6$ times.

P9
 $CE=16,00,000+4,00,000=20,00,000$; Debt/
CE=0.20:1.

P10
 $Average\ Inventory=(1,80,000+2,20,000)/$
 $2=2,00,000$; Turnover=6 times.

P11
 $Average\ Inventory=16,00,000/8=2,00,000$.
Let opening=x, closing=x+50,000.
x=1,75,000; closing=2,25,000.

P12
 $Avg\ Receivables=1,80,000$; Turnover=10x;
Collection=36.5~37 days.

SELF-CHECK

If your final answer differs, trace the first line where your classification or denominator changed.

18. SOLUTIONS

Detailed Solutions • P13-P18

Compare method — not only the final number.

P13

Avg Payables=1,50,000; Turnover=8x;
Payment=45.625~46 days.

P14

32,00,000/16,00,000=2 times.

P15

36,00,000/18,00,000=2 times.

P16

WC=5,00,000;
turnover=25,00,000/5,00,000=5 times.

P17

GP=7,00,000; GP ratio=35%.

P18

Operating Cost=18,00,000; Operating
Ratio=75%; Operating Profit Ratio=25%.

**SELF-CHECK**

If your final answer differs, trace the first line where your classification or denominator changed.

18. SOLUTIONS

Detailed Solutions • P19-P24

Compare method — not only the final number.

P19

$$4,00,000/25,00,000 \times 100 = 16\%.$$

P20

$$3,00,000/30,00,000 \times 100 = 10\%.$$

P21

$$5,40,000/27,00,000 \times 100 = 20\%.$$

P22

$$\begin{aligned} \text{PBT} &= 2,70,000 / 0.60 = 4,50,000; \\ \text{EBIT} &= 5,00,000; \text{ROI} = 50\%; \text{ICR} = 10\text{x}. \end{aligned}$$

P23

$$\begin{aligned} \text{Old CL} &= 5,00,000 / 2.5 = 2,00,000. \text{ New} \\ \text{CA} &= 6,00,000, \text{ new CL} = 3,00,000; \text{ new} \\ \text{CR} &= 2:1. \end{aligned}$$

P24

$$\begin{aligned} \text{New Debt} &= 4,00,000; \text{ equity unchanged at} \\ &12,00,000; \text{ revised DE} = 0.33:1. \end{aligned}$$


SELF-CHECK

If your final answer differs, trace the first line where your classification or denominator changed.

19. BOARD CHALLENGE

Challenge A

Multi-ratio problems reward structure before speed.

CHALLENGE

Net Sales Rs. 48,00,000; GP Ratio 30%; Opening Inventory Rs. 3,00,000; Closing Inventory Rs. 4,20,000; CA Rs. 12,00,000 including closing inventory; CL Rs. 4,00,000. Find COGS, Inventory Turnover, Current Ratio and Quick Ratio (ignore other non-quick assets).

1. Build missing figures 2. Write formulas 3. Substitute 4. Interpret

YOUR WORKING SPACE



19. BOARD CHALLENGE

Challenge B

Multi-ratio problems reward structure before speed.

CHALLENGE

NPAT Rs. 4,80,000; tax rate 40%; interest Rs. 1,20,000; LT Debt Rs. 8,00,000; Shareholders Funds Rs. 20,00,000; Total Assets Rs. 34,00,000. Find PBT, EBIT, ICR, DE, Proprietary and ROI.

1. Build missing figures 2. Write formulas 3. Substitute 4. Interpret

YOUR WORKING SPACE



19. BOARD CHALLENGE

Challenge C

Multi-ratio problems reward structure before speed.

CHALLENGE

Total Revenue from Operations Rs. 30,00,000; cash sales 20%; sales returns from credit sales Rs. 1,00,000; opening TR Rs. 2,00,000; closing TR Rs. 3,00,000. Total purchases Rs. 18,00,000; cash purchases Rs. 3,00,000; purchase returns from credit purchases Rs. 60,000; opening TP Rs. 1,20,000; closing TP Rs. 1,80,000. Find receivables/payables turnovers and periods.

1. Build missing figures 2. Write formulas 3. Substitute 4. Interpret

YOUR WORKING SPACE


19. BOARD CHALLENGE

Challenge D

Multi-ratio problems reward structure before speed.

CHALLENGE

Net Sales Rs. 40,00,000; COGS Rs. 25,00,000; Operating Expenses Rs. 7,00,000; Non-operating income Rs. 2,00,000; Interest Rs. 1,00,000; Tax Rs. 2,00,000; CE Rs. 25,00,000. Find GP, Operating Ratio, Operating Profit Ratio, NP Ratio after tax and ROI.

1. Build missing figures 2. Write formulas 3. Substitute 4. Interpret

YOUR WORKING SPACE


20. CHALLENGE SOLUTION

Challenge A

Multi-ratio problems reward structure before speed.

1

GP=30% of 48,00,000=14,40,000;
COGS=33,60,000.

2

Average Inventory=(3,00,000+4,20,000)/
2=3,60,000; Inventory Turnover=9.33x.

3

Current Ratio=12,00,000/4,00,000=3:1.

4

Quick
Assets=12,00,000-4,20,000=7,80,000;
Quick Ratio=1.95:1.

20. CHALLENGE SOLUTION

Challenge B

Multi-ratio problems reward structure before speed.

1

$$\text{PBT} = 4,80,000 / 0.60 = 8,00,000.$$

2

$$\begin{aligned}\text{EBIT} &= 8,00,000 + 1,20,000 = 9,20,000; \\ \text{ICR} &= 7.67x.\end{aligned}$$

3

$$\text{DE} = 8,00,000 / 20,00,000 = 0.40:1.$$

4

$$\text{Proprietary} = 20,00,000 / 34,00,000 = 58.82\%.$$

5

$$\text{CE} = 28,00,000; \text{ROI} = 32.86\%.$$



20. CHALLENGE SOLUTION

Challenge C

Multi-ratio problems reward structure before speed.

1

Credit sales=24,00,000; net credit sales=23,00,000. Avg TR=2,50,000; turnover=9.20x; collection~40 days.

2

Credit purchases=15,00,000; net credit purchases=14,40,000. Avg TP=1,50,000; turnover=9.60x; payment~38 days.



20. CHALLENGE SOLUTION

Challenge D

Multi-ratio problems reward structure before speed.

1

GP=15,00,000; GP ratio=37.5%.

2

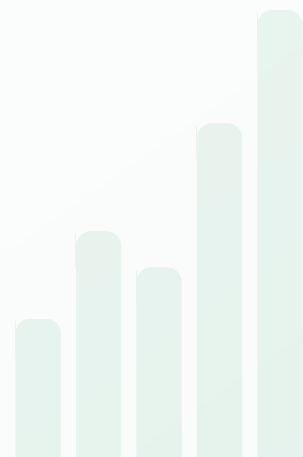
Operating Cost=32,00,000; Operating Ratio=80%; Operating Profit Ratio=20%.

3

PBT=8,00,000+2,00,000-1,00,000=9,00,000;
PAT=7,00,000; NP Ratio after tax=17.5%.

4

EBIT=Operating Profit + non-operating income = 10,00,000; ROI=40%.



21. LAST-MINUTE REVISION

25 Rules • Part 1

Read once before a mixed ratio test.

1 Current Ratio = CA / CL .

2 Quick Ratio = $Quick Assets / CL$.

3 Quick assets exclude inventory and non-quick current assets.

4 Working Capital = $CA - CL$.

5 Debt-Equity uses long-term debt, not current liabilities.

6 Total Assets to Debt = $Total Assets / Long-term Debt$.

7 Proprietary = $Shareholders Funds / Total Assets$.

8 Interest Coverage = $EBIT / Interest$.

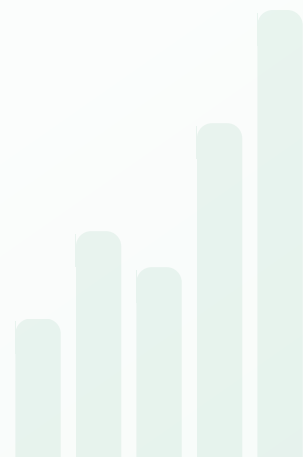
9 Capital Employed = $Shareholders Funds + LT Debt = Total Assets - CL$.

10 Debt to CE = $LT Debt / CE$.

11 Inventory Turnover = $COGS / Average Inventory$.

12 Receivables Turnover = $Net Credit Sales / Avg Trade Receivables$.

13 Payables Turnover = $Net Credit Purchases / Avg Trade Payables$.



21. LAST-MINUTE REVISION

25 Rules • Part 2

Read once before a mixed ratio test.

14 Average collection/payment period = $365 / \text{turnover}$.

15 Fixed Asset Turnover = $\text{Net Sales} / \text{Net Fixed Assets}$.

16 Net Asset Turnover = $\text{Net Sales} / \text{Capital Employed}$.

17 Working Capital Turnover = $\text{Net Sales} / \text{Working Capital}$.

18 GP Ratio = $\text{GP} / \text{Net Sales} \times 100$.

19 Operating Ratio = $(\text{COGS} + \text{Operating Expenses}) / \text{Net Sales} \times 100$.

20 Operating Profit Ratio = $\text{Operating Profit} / \text{Net Sales} \times 100$.

21 Operating Ratio + Operating Profit Ratio = 100%.

22 NP Ratio may be before or after tax as asked.

23 ROI = $\text{EBIT} / \text{Capital Employed} \times 100$.

24 GP on cost must be converted before using sales-based margins.

25 Interpret ratios with context; no ratio is a complete verdict by itself.



22. REVISION

Chapter Mind Map

One sentence to remember: Liquidity = short term, Solvency = long term, Activity = speed/efficiency, Profitability = margin/return.

LIQUIDITY

Current • Quick
short-term paying capacity

SOLVENCY

DE • ICR • Proprietary
long-term financial safety

RATIO

ANALYSIS

classify → calculate → interpret

ACTIVITY

Inventory • TR • TP • Assets
speed & resource efficiency

PROFITABILITY

GP • Operating • NP • ROI
margin & return

INTERPRETATION

Trend • Benchmark • Context
meaning after calculation

SHORT TERM → LONG TERM → SPEED → MARGIN → MEANING

23. SELF-CHECK

Can You Do This Now?

Tick only what you can do without looking at the formula sheet.



I can classify a ratio before using a formula.



I can compute current and quick ratios from a Balance Sheet.



I can solve target current-ratio equations.



I can predict transaction effects on current ratio.



I can compute all five CBSE solvency ratios.



I can reconstruct EBIT from NPAT and tax information.



I can compute inventory turnover from COGS or GP data.



I can derive opening/closing inventory from average inventory.



I can compute receivables/payables turnovers and periods.



I can calculate fixed asset, net asset and working capital turnovers.



I can convert GP on cost into GP ratio on sales.



I can compute operating ratio and operating profit ratio.



I can calculate Net Profit Ratio before or after tax.



I can compute ROI using either capital-employed route.



I can solve an integrated ratio case and write a short interpretation.

24. SOURCE NOTE

Sources & Further Reading

Coverage map, curriculum alignment and originality note.

01

Primary chapter coverage

Uploaded Accountancy Volume II,
Chapter 5 - Financial Ratios
Analysis.

02

Official curriculum cross-check

CBSE Accountancy (Subject Code
055), Class XII, 2026-27.

03

Official concept/formula cross-check

NCERT Accountancy Part II,
Chapter 5 - Accounting Ratios,
Reprint 2026-27.

REFERENCE LINKS

NCERT chapter: <https://www.ncert.nic.in/textbook/pdf/leac205.pdf>

CBSE curriculum: https://cbseacademic.nic.in/web_material/CurriculumMain27/SecPart2/Accountancy_SecP2_2026-27.pdf

ORIGINALITY NOTE

The uploaded book is used as a coverage map. Explanations, teaching language, worked illustrations, practice numericals, cases, MCQs and revision structure in this master are independently written for Smit Sir Commerce.

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