

Complete FAANG Aptitude Preparation Guide

IMPORTANT REALITY CHECK

FAANG companies (Meta, Apple, Amazon, Netflix, Google) primarily focus on technical coding interviews and behavioral assessments rather than traditional aptitude tests for software engineering roles. However, some positions and certain assessment rounds may include aptitude components. This guide covers both scenarios.

1. COMPLETE APTITUDE SYLLABUS

A. QUANTITATIVE APTITUDE

ARITHMETIC (40% weightage)

Number Systems & Basic Operations

- Natural numbers, integers, rational/irrational numbers
- Prime numbers, composite numbers, and factorization
- HCF and LCM (Euclidean algorithm method)
- Divisibility rules (2, 3, 4, 5, 6, 8, 9, 10, 11)
- Base conversion (binary, octal, decimal, hexadecimal)
- BODMAS rule and order of operations

Percentages (High Priority)

- Basic percentage calculations and conversions
- Percentage increase/decrease formulas
- Successive percentage changes
- Percentage error and approximation
- Applications: discount, tax, commission problems

Profit and Loss

- Cost price, selling price, marked price relationships
- Profit/loss percentage calculations
- Discount and successive discount problems
- Partnership profit sharing
- False weight and dishonest dealing problems

Simple Interest & Compound Interest

- $SI = (P \times R \times T) / 100$ formula and applications
- $CI = P[(1 + R/100)^T - 1]$ formula
- Difference between CI and SI
- Effective rate of interest
- Installment and EMI calculations

Time and Work

- Work rate concept: $Work = Rate \times Time$
- Individual and combined work problems
- Efficiency and time relationship
- Pipes and cisterns problems
- Work and wages problems

Time, Speed, and Distance

- Basic formula: $Speed = Distance/Time$
- Relative speed and relative motion
- Average speed calculations
- Trains crossing problems
- Boats and streams problems
- Circular track and meeting point problems

Ratio and Proportion

- Direct and inverse proportions
- Continued ratios and compound ratios
- Partnership ratio problems
- Mixture and alligation
- Age-related ratio problems

Algebra Fundamentals

- Linear equations in one and two variables
- Quadratic equations: factorization and formula method
- Arithmetic and geometric progressions
- Sum of series formulas
- Basic inequalities

GEOMETRY & MENSURATION (25% weightage)

Basic Geometry

- Lines, angles, and triangles
- Properties of quadrilaterals
- Circle theorems and properties
- Coordinate geometry basics
- Similarity and congruence

Mensuration

- Area formulas: triangle, rectangle, square, circle, trapezium
- Perimeter calculations
- Surface area and volume: cube, cuboid, cylinder, cone, sphere
- Complex area problems
- Volume and capacity problems

B. LOGICAL REASONING

VERBAL REASONING (30% weightage)

Analogies

- Word relationships and pattern recognition
- Completing analogous pairs
- Multiple relationship analogies
- Synonym/antonym based analogies

Classifications

- Odd one out problems
- Grouping similar items
- Category-based classification
- Number and letter classifications

Series Completion

- Letter series (alphabetical patterns)
- Number series (arithmetic, geometric, square, cube)
- Mixed alphanumeric series
- Complex pattern series

Coding-Decoding

- Letter coding (A=1, B=2 pattern)
- Number coding systems
- Symbol-based coding
- Conditional coding

Blood Relations

- Family tree construction
- Relationship determination
- Complex family problems
- Multiple generation problems

Direction Sense Test

- Basic direction problems
- Distance and direction combined
- Shortest path problems
- Shadow-based direction problems

NON-VERBAL REASONING (25% weightage)

Pattern Recognition

- Visual pattern completion
- Shape-based sequences
- Rotation and reflection patterns
- Number patterns in figures

Figure Analysis

- Missing figure identification
- Figure completion problems
- Figure classification
- Analogy in figures

Spatial Reasoning

- 3D visualization problems
- Paper folding and cutting
- Cube and dice problems

- Mirror and water image

C. DATA INTERPRETATION (High Priority for FAANG)

Table-Based DI

- Simple data extraction
- Comparative analysis between rows/columns
- Percentage calculations from tables
- Growth rate calculations

Chart Interpretation

- Bar charts (single, multiple, stacked)
- Line graphs (single, multiple)
- Pie charts and percentage distribution
- Combination charts

Advanced DI

- Caselet-based problems
 - Missing data problems
 - Approximation-based calculations
 - Time-series analysis
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2. COMPANY-SPECIFIC ASSESSMENT DETAILS

AMAZON

Assessment Structure:

- **Work Style Assessment:** 15-20 minutes, 38 questions
 - Behavioral statements rated on 1-5 scale
 - Focus on Amazon's 16 Leadership Principles
 - Consistency and authenticity crucial
- **Reasoning Tests:** 15-30 questions each
 - **Numerical Reasoning:** Data interpretation, percentages, ratios
 - **Verbal Reasoning:** Reading comprehension, critical thinking
 - **Logical Reasoning:** Pattern recognition, sequences

Question Types:

- Data interpretation from business scenarios
- Logical reasoning with Amazon case studies
- Time management under pressure
- **Difficulty:** Medium to Hard
- **Time per question:** 1-2 minutes

GOOGLE

Assessment Focus:

- **Technical Problem Solving:** Algorithm-based logical thinking
- **Analytical Reasoning:** Math puzzles and brain teasers
- **Googleness Assessment:** Cultural fit evaluation

Typical Questions:

- "How many golf balls fit in a school bus?" (Estimation)
- Pattern recognition in sequences
- Probability and statistics problems
- **Difficulty:** Hard
- **Time per question:** 2-3 minutes

META (FACEBOOK)

Assessment Components:

- **Analytical Thinking:** Data-driven problem solving
- **Quantitative Reasoning:** Business metrics analysis
- **Behavioral Assessment:** Values alignment

Question Patterns:

- Growth rate calculations
- A/B testing scenarios
- User engagement metrics
- **Difficulty:** Medium to Hard
- **Time per question:** 1.5-2.5 minutes

MICROSOFT

Assessment Areas:

- **Cognitive Ability:** Pattern recognition and logical reasoning

- **Technical Aptitude:** Basic programming logic
- **Situational Judgment:** Workplace scenarios

Focus Areas:

- Analytical problem solving
- Attention to detail
- Learning agility assessment
- **Difficulty:** Medium
- **Time per question:** 1.5-2 minutes

NETFLIX

Assessment Style:

- **Culture Fit:** Alignment with Netflix values
- **Analytical Skills:** Data interpretation
- **Decision Making:** Scenario-based questions

Unique Aspects:

- Entertainment industry scenarios
- Creative problem solving
- High-performance culture questions
- **Difficulty:** Medium
- **Time per question:** 2-3 minutes

3. DETAILED STUDY PLAN (12 WEEKS)

PHASE 1: FOUNDATION (Weeks 1-4)

Week 1: Arithmetic Fundamentals

- **Day 1-2:** Number systems, HCF/LCM, divisibility rules
- **Day 3-4:** Percentages (basic calculations, increase/decrease)
- **Day 5:** Profit and loss basics
- **Day 6:** Simple interest problems
- **Day 7:** Practice test + review

Daily Schedule:

- Morning (1 hour): New concept learning

- Evening (1 hour): Practice problems (30-40 questions)

Week 2: Time-Based Problems

- **Day 1-2:** Time and work (individual rates, combined work)
- **Day 3-4:** Time, speed, distance (basic problems)
- **Day 5:** Trains and relative motion
- **Day 6:** Boats and streams
- **Day 7:** Mixed practice + speed test

Week 3: Ratios and Advanced Arithmetic

- **Day 1-2:** Ratio and proportion, partnership
- **Day 3-4:** Mixture and alligation
- **Day 5:** Age problems
- **Day 6:** Compound interest
- **Day 7:** Sectional test

Week 4: Algebra and Geometry

- **Day 1-2:** Linear and quadratic equations
- **Day 3-4:** Sequences and series (AP, GP)
- **Day 5:** Basic geometry
- **Day 6:** Mensuration formulas
- **Day 7:** Phase 1 comprehensive test

PHASE 2: REASONING MASTERY (Weeks 5-8)

Week 5: Verbal Reasoning

- **Day 1:** Analogies and classifications
- **Day 2:** Series completion
- **Day 3:** Coding-decoding
- **Day 4:** Blood relations
- **Day 5:** Direction sense
- **Day 6:** Mixed verbal reasoning
- **Day 7:** Verbal reasoning test

Week 6: Non-Verbal Reasoning

- **Day 1:** Pattern recognition

- **Day 2:** Figure analysis
- **Day 3:** Spatial reasoning
- **Day 4:** Paper folding and cutting
- **Day 5:** Cube and dice
- **Day 6:** Mixed non-verbal practice
- **Day 7:** Complete reasoning test

Week 7: Data Interpretation

- **Day 1:** Table-based DI
- **Day 2:** Bar charts
- **Day 3:** Line graphs
- **Day 4:** Pie charts
- **Day 5:** Mixed charts
- **Day 6:** Caselet DI
- **Day 7:** DI speed test

Week 8: Integration and Speed Building

- **Day 1-2:** Mixed topic practice
- **Day 3-4:** Speed building exercises
- **Day 5-6:** Error analysis and improvement
- **Day 7:** Full-length mock test

PHASE 3: ADVANCED PREPARATION (Weeks 9-10)

Week 9: Company-Specific Practice

- **Day 1:** Amazon-style questions
- **Day 2:** Google analytical problems
- **Day 3:** Meta business scenarios
- **Day 4:** Microsoft technical aptitude
- **Day 5:** Netflix culture-fit questions
- **Day 6:** Cross-company practice
- **Day 7:** Company-specific mock test

Week 10: Advanced Problem Solving

- **Day 1-2:** Complex DI problems

- **Day 3-4:** Advanced reasoning patterns
- **Day 5-6:** High-difficulty quantitative problems
- **Day 7:** Advanced level mock test

PHASE 4: PEAK PERFORMANCE (Weeks 11-12)

Week 11: Intensive Practice

- **Daily:** 2 full-length tests + detailed analysis
- Focus on weak areas identified
- Time management optimization
- Stress management practice

Week 12: Final Preparation

- **Day 1-5:** Light revision + confidence building
 - **Day 6:** Final mock test
 - **Day 7:** Rest and mental preparation
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4. 📖 ESSENTIAL RESOURCES

BOOKS (Priority Order)

Quantitative Aptitude:

1. **R.S. Aggarwal - Quantitative Aptitude** (Bible for aptitude)
2. **Arun Sharma - How to Prepare for Quantitative Aptitude for CAT**
3. **Abhijit Guha - Quantitative Aptitude for Competitive Examinations**

Logical Reasoning:

1. **R.S. Aggarwal - A Modern Approach to Logical Reasoning**
2. **M.K. Pandey - Analytical Reasoning**
3. **Edgar Thorpe - Objective Reasoning**

Data Interpretation:

1. **Arun Sharma - How to Prepare for Data Interpretation for CAT**
2. **K. Kundan - Data Interpretation & Data Sufficiency**

ONLINE PLATFORMS

Free Resources:

1. **IndiaBix** (www.indiabix.com)

- Topic-wise questions with solutions
- Company-specific practice tests
- Detailed explanations

2. **Prep Insta** (www.prepinsta.com)

- FAANG company-specific preparation
- Mock tests and analysis
- Placement papers

3. **GeeksforGeeks** (www.geeksforgeeks.org)

- Technical aptitude questions
- Algorithm-based problems
- Interview experiences

4. **Sawaal** (www.sawaal.com)

- Free aptitude questions
- Topic-wise practice

Paid Platforms:

1. **Unacademy Plus** - Comprehensive courses
2. **BYJU'S Exam Prep** - Mock tests and analysis
3. **Testbook** - Company-specific preparation
4. **Oliveboard** - Advanced level preparation

YOUTUBE CHANNELS

1. **Unacademy** - Complete aptitude courses
2. **Khan Academy** - Mathematical concepts
3. **Prabhakaran Mathematics** - Quantitative aptitude tricks
4. **CareerRide** - Placement preparation
5. **Amar Sir** - Quick aptitude solutions
6. **StudyIQ** - Reasoning and aptitude

MOBILE APPS

1. **Prep Insta Prime** - Company-specific practice
2. **Unacademy Learning App** - Live classes
3. **Pocket Aptitude** - Quick practice
4. **Logical Reasoning Test** - Reasoning practice

5. ⚡ QUICK REFERENCE MATERIAL

IMPORTANT FORMULAS & SHORTCUTS

Arithmetic Shortcuts

Percentage Shortcuts:

- $12.5\% = 1/8$ • $16.67\% = 1/6$ • $20\% = 1/5$
- $25\% = 1/4$ • $33.33\% = 1/3$ • $37.5\% = 3/8$
- $50\% = 1/2$ • $62.5\% = 5/8$ • $66.67\% = 2/3$
- $75\% = 3/4$ • $87.5\% = 7/8$

Square Shortcuts:

- $(a+b)^2 = a^2 + 2ab + b^2$
- $(a-b)^2 = a^2 - 2ab + b^2$
- $(a+b)(a-b) = a^2 - b^2$

Multiplication Tricks:

- Two-digit numbers ending in 5: $25^2 = (2 \times 3) \times 100 + 25 = 625$
- Numbers close to 100: $97 \times 96 = 100^2 - 3 \times 100 - 4 \times 100 + 3 \times 4 = 9312$

Time & Work Shortcuts

- If A completes work in 'a' days, work rate = $1/a$ per day
- Combined work: $1/A + 1/B = 1/\text{Together}$
- If A is 'n' times efficient than B: Time ratio = $1:n$
- Pipes & Cisterns: Inlet rate - Outlet rate = Net rate

Speed & Distance Shortcuts

- Speed conversion: km/hr to m/s \rightarrow multiply by $5/18$
- Relative speed: Same direction = $|S_1 - S_2|$, Opposite = $S_1 + S_2$
- Train crossing: Time = $(L_1 + L_2)/\text{Speed}$
- Boat problems: Downstream = Boat + Stream, Upstream = Boat - Stream

Interest Shortcuts

- $SI = (P \times R \times T)/100$
- $CI = P[(1 + R/100)^t - 1]$
- Difference between CI and SI for 2 years = $PR^2/100^2$
- Effective rate for compound interest = $(1 + R/100)^n - 1$

DATA INTERPRETATION SHORTCUTS

Percentage Calculations

- Percentage change = $(\text{New} - \text{Old}) / \text{Old} \times 100$
- Percentage of total = $(\text{Part} / \text{Whole}) \times 100$
- Percentage point difference \neq Percentage difference

Chart Reading Techniques

- Bar Charts: Compare heights directly
- Line Graphs: Look for trends and slopes
- Pie Charts: Central angle = $(\text{Value} / \text{Total}) \times 360^\circ$
- Tables: Use approximation for quick calculations

Approximation Techniques

- Round numbers for quick calculations
- Use fractions instead of decimals
- Mental math shortcuts for addition/subtraction
- Cross-multiplication for ratios

LOGICAL REASONING PATTERNS

Series Patterns

Number Series:

- Arithmetic: $+n, +n, +n \dots$
- Geometric: $\times n, \times n, \times n \dots$
- Square: $1^2, 2^2, 3^2 \dots$
- Cube: $1^3, 2^3, 3^3 \dots$
- Fibonacci: 1, 1, 2, 3, 5, 8...

Letter Series:

- Alphabetical order: A, B, C...
- Skip patterns: A, C, E... (skip 1)
- Position value: A=1, B=2...

Coding-Decoding Patterns

- Letter shifting: A \rightarrow B (shift by 1)
 - Reverse order: ABCD \rightarrow DCBA
 - Position-based: A(1) \rightarrow 1, B(2) \rightarrow 2
 - Pattern-based: A \rightarrow 1, B \rightarrow 2, C \rightarrow 3
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6. TEST-TAKING STRATEGIES

PRE-TEST PREPARATION

- Sleep 7-8 hours before test day
- Light breakfast with protein and complex carbs
- Arrive 30 minutes early
- Carry water bottle and necessary documents
- Quick formula revision (15 minutes)

DURING TEST STRATEGIES

Time Management

- **Total Time Allocation:**
 - Quantitative: 45-50% of total time
 - Reasoning: 35-40% of total time
 - DI: 10-15% of total time (high accuracy focus)
- **Question Selection:**
 - Start with your strongest area
 - Skip questions taking more than 2x expected time
 - Mark difficult questions for later review
 - Attempt all easy and medium questions first

Accuracy Improvement

- Read questions twice for critical problems
- Double-check calculation-heavy questions
- Use elimination method for multiple choice
- Cross-verify answers using different methods

Stress Management

- Take 30-second breaks between sections
- Use deep breathing if feeling overwhelmed
- Don't panic if stuck on difficult questions
- Maintain positive self-talk throughout

SECTION-WISE STRATEGY

Quantitative Aptitude

- **Time per question:** 1-2 minutes
- **Order:** Arithmetic → Algebra → Geometry
- **Technique:** Use approximation for complex calculations
- **Focus:** Accuracy over speed initially

Logical Reasoning

- **Time per question:** 1-1.5 minutes
- **Order:** Pattern recognition → Coding → Blood relations
- **Technique:** Visualize problems, use diagrams
- **Focus:** Pattern identification speed

Data Interpretation

- **Time per question:** 2-3 minutes
 - **Order:** Tables → Bar charts → Pie charts → Complex DI
 - **Technique:** Read data once, solve multiple questions
 - **Focus:** High accuracy (80%+ target)
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7. PRACTICE FRAMEWORK

DAILY PRACTICE ROUTINE

Morning Session (1.5 hours)

- **20 minutes:** Formula revision and mental math practice
- **40 minutes:** Topic-focused problem solving (25-30 questions)
- **20 minutes:** Previous day's error analysis
- **10 minutes:** Weak area identification and planning

Evening Session (1 hour)

- **30 minutes:** Mixed topic practice (20-25 questions)
- **20 minutes:** Speed building exercises
- **10 minutes:** Performance tracking and goal setting

WEEKLY MOCK TEST SCHEDULE

Structure:

- **Monday:** Quantitative Aptitude sectional test (45 minutes)
- **Tuesday:** Logical Reasoning sectional test (40 minutes)

- **Wednesday:** Data Interpretation sectional test (30 minutes)
- **Thursday:** Mixed topics practice test (60 minutes)
- **Friday:** Company-specific mock test (varies by company)
- **Saturday:** Full-length comprehensive test (2-3 hours)
- **Sunday:** Complete analysis and weak area practice

Mock Test Analysis Framework:

1. **Immediate Review** (30 minutes post-test):
 - Note incorrect answers
 - Identify silly mistakes
 - Check time management
2. **Detailed Analysis** (Next day, 1 hour):
 - Understand solution methodology for wrong answers
 - Identify knowledge gaps
 - Note recurring mistake patterns
 - Plan remedial study
3. **Performance Tracking:**
 - Overall accuracy percentage
 - Section-wise performance
 - Time utilization analysis
 - Difficulty level comfort zone

PERFORMANCE TRACKING METRICS

Weekly Metrics:

- **Accuracy Rate:** Target 85%+ overall
- **Speed Metrics:** Questions per minute by section
- **Consistency:** Standard deviation of scores
- **Growth Rate:** Week-over-week improvement

Monthly Assessment:

- **Topic Mastery:** Accuracy by individual topics
- **Time Management:** Section completion within time limits
- **Stress Handling:** Performance under timed conditions
- **Mock Test Scores:** Trend analysis and goal achievement

ERROR ANALYSIS METHODOLOGY

Error Categories:

1. **Conceptual Errors:** Lack of understanding
2. **Calculation Errors:** Arithmetic mistakes
3. **Time Management Errors:** Rushed solutions
4. **Reading Errors:** Misunderstanding questions

Improvement Plan:

- **Conceptual:** Revisit theory and solve similar problems
 - **Calculation:** Practice mental math and use approximation
 - **Time Management:** Set strict time limits during practice
 - **Reading:** Practice reading questions carefully twice
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8. 💡 SUCCESS TIPS

COMMON MISTAKES TO AVOID

Study Phase Mistakes:

- **Over-studying theory:** Focus 70% on practice, 30% on theory
- **Ignoring weak areas:** Spend extra time on difficult topics
- **Irregular practice:** Consistent daily practice beats weekend marathons
- **Skipping mock tests:** Take at least 50+ mock tests before actual test
- **Not analyzing errors:** Learn from every mistake systematically

Test-Day Mistakes:

- **Starting with difficult questions:** Begin with easier ones for confidence
- **Spending too much time on one question:** Stick to time limits strictly
- **Not reviewing marked questions:** Always review if time permits
- **Panic during difficult sections:** Stay calm and move to easier questions
- **Second-guessing correct answers:** First instinct is usually right

LAST-MINUTE PREPARATION STRATEGIES

1 Week Before Test:

- **Day 1-3:** Light revision of formulas and shortcuts
- **Day 4-5:** Take 2-3 mock tests for final assessment

- **Day 6:** Complete rest, light formula review
- **Day 7:** Test day preparation and relaxation

Day Before Test:

- **Morning:** Quick formula revision (30 minutes)
- **Afternoon:** Light physical activity or relaxation
- **Evening:** Early dinner and good sleep preparation
- **Night:** Avoid heavy studying, prepare documents

MENTAL PREPARATION TECHNIQUES

Confidence Building:

- **Positive Visualization:** Imagine successfully completing the test
- **Strength Identification:** List your strongest topics and skills
- **Goal Setting:** Set realistic yet challenging targets
- **Success Stories:** Read about others who cleared FAANG assessments

Stress Management:

- **Breathing Exercises:** Practice deep breathing techniques
- **Time Management:** Create a realistic test-day timeline
- **Backup Plans:** Have strategies for difficult situations
- **Positive Self-Talk:** Develop encouraging internal dialogue

COMPANY-SPECIFIC SUCCESS TIPS

Amazon Specific:

- **Leadership Principles:** Memorize and understand all 16 principles
- **Customer Obsession:** Frame answers around customer impact
- **Data-Driven Thinking:** Support answers with logical reasoning
- **Ownership Mentality:** Show responsibility and initiative

Google Specific:

- **Analytical Thinking:** Break complex problems into smaller parts
- **Innovation Focus:** Demonstrate creative problem-solving
- **Technical Depth:** Show strong logical reasoning skills
- **Googleness:** Be collaborative and curious

Meta Specific:

- **Move Fast:** Show ability to work efficiently under pressure
- **Be Bold:** Demonstrate willingness to take calculated risks
- **Focus on Impact:** Quantify results and outcomes
- **Be Open:** Show willingness to learn and adapt

Microsoft Specific:

- **Growth Mindset:** Show continuous learning attitude
- **Collaboration:** Demonstrate teamwork skills
- **Respect:** Show inclusive and respectful behavior
- **Excellence:** Strive for high-quality solutions

Netflix Specific:

- **High Performance:** Demonstrate exceptional standards
 - **Freedom & Responsibility:** Show independent thinking
 - **Context, not Control:** Understand situational leadership
 - **Keeper Test:** Show you're someone others would fight to keep
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FINAL CHECKLIST FOR 90%+ ACCURACY

Knowledge Checklist (✓ Complete all):

- ☐ Master all arithmetic formulas and shortcuts
- ☐ Solve 500+ quantitative aptitude questions
- ☐ Complete 300+ logical reasoning problems
- ☐ Practice 200+ data interpretation sets
- ☐ Memorize all quick calculation techniques
- ☐ Understand all common reasoning patterns

Practice Checklist (✓ Complete all):

- ☐ Take 50+ full-length mock tests
- ☐ Achieve 85%+ accuracy in sectional tests
- ☐ Complete company-specific practice tests
- ☐ Solve previous year questions
- ☐ Practice under timed conditions regularly
- ☐ Analyze errors systematically

Strategy Checklist (✓ Complete all):

- ☐ Develop personal test-taking strategy
- ☐ Master time management techniques
- ☐ Practice stress management methods
- ☐ Prepare backup plans for difficult scenarios
- ☐ Build confidence through consistent practice
- ☐ Create personalized formula sheet

Final Week Checklist (✓ Complete all):

- ☐ Light revision of key concepts
 - ☐ Final mock test performance analysis
 - ☐ Prepare all necessary documents
 - ☐ Plan test-day timeline and logistics
 - ☐ Get adequate rest and nutrition
 - ☐ Maintain positive mindset
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EXPECTED OUTCOMES

Following this comprehensive guide should help you achieve:

- **90%+ overall accuracy** in aptitude tests
- **Time management mastery** for all sections
- **Confidence** in tackling any type of question
- **Company-specific preparation** for FAANG assessments
- **Systematic approach** to problem-solving
- **Stress management** during actual tests

Remember: Consistency in practice and systematic preparation are the keys to cracking FAANG aptitude rounds. This guide provides the roadmap; your dedication and practice will determine the success!

"Success in FAANG aptitude tests is 20% knowledge, 30% practice, and 50% strategy and mindset."