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TCS NQT

COMPLETE PREPARATION GUIDE

Updated for 2024 • 2025 • 2026 Batches | Ninja • Digital • Prime

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All content verified and updated for the 2025–2026 hiring cycle.

SECTION 1: TCS NQT EXAM PATTERN — 2024 / 2025 / 2026

The TCS National Qualifier Test (TCS NQT) uses the Integrated Test Pattern (ITP) introduced from 2024. A single online exam of 190 minutes determines whether a candidate receives a Ninja, Digital, or Prime role. The exam is conducted ONLY at TCS iON Authorised Exam Centres. There is NO negative marking.

Parameter	Details
Test Name	TCS National Qualifier Test (TCS NQT)
	In-Centre Only — TCS iON Authorised Centres
Total Duration	190 Minutes (approx. 3 hrs 10 min)
	Part A: Foundation + Part B: Advanced
Negative Marking	NONE — attempt every question
	Locked — cannot go back after submitting
Section Switching	Not allowed between sub-sections
	Exam TERMINATES immediately
Tools	On-screen calculator + digital rough paper
	English only
Eligible Batches	2024, 2025, 2026 passouts
	B.E / B.Tech / M.Tech / MCA / M.Sc (CS/IT) — AICTE/UGC recognised
Academic Cutoff	Min 60% or 6.0 CGPA in 10th, 12th, and graduation (all years)
	Zero active backlogs at time of application
Academic Gap	Maximum 2 years allowed

Part A — Foundation Section (Mandatory for ALL roles)

Section	Questions	Time	Difficulty Level
l Ability	24	20 min	Easy to Medium
oning Ability	30	50 min	Medium
erical Ability	26	40 min	Medium to Hard
s / Psychometric	~12 (unscored)	—	Behavioural — No scorin
A TOTAL	~90 Qs	~110 min	—

Part B — Advanced Section (Required for Digital & Prime roles)

Section	Questions	Time	Difficulty Level
nced Quantitative Ability	10	25 min	Hard
nced Reasoning Ability	10	25 min	Hard
nced Coding	2	45 min	Hard — Full programs
B TOTAL	22 Qs	~80 min	—

Role & Salary Breakdown Based on NQT Score

Role	Salary (UG)	Salary (PG)	Basis	Key Focus
TCS Ninja	Rs 3.36 LPA	Rs 3.53 LPA	Part A score only	Aptitude + Verbal + Reasoning
TCS Digital	Rs 7.09-8.04 LPA	Rs 7.09-8.04 LPA	Part A + Part B	Advanced Aptitude + Coding
TCS Prime	Rs 9.09-12.26 LPA	Rs 9.09-12.26 LPA	High Part B + Interview	DS&A + Coding + System Design

■ *Prime roles are now open to ALL colleges since 2024 — not limited to IIT/NIT. Focus on Advanced Coding for Digital and Prime tagging.*

SECTION 2: COMPLETE SYLLABUS & TOPIC-WISE WEIGHTAGE

Verbal Ability — Foundation (24 Questions / 20 minutes)

Topic	Approx. Questions	Frequency (Repeated Years)
Reading Comprehension	6 to 8	5 Stars — Asked every year
Sentence Correction	3 to 5	4 Stars — Very frequent
Fill in the Blanks	3 to 5	4 Stars — Very frequent
Error Detection / Spotting	2 to 4	4 Stars — Very frequent
Synonyms / Antonyms	2 to 3	3 Stars — Regular
Para Jumbles / Sequencing	2 to 3	3 Stars — Regular
One Word Substitution	1 to 2	3 Stars — Regular
Idioms and Phrases	1 to 2	2 Stars — Occasional
Vocabulary in Context	1 to 2	2 Stars — Occasional

Reasoning Ability — Foundation (30 Questions / 50 minutes)

Topic	Approx. Questions	Frequency
Number / Letter Series	4 to 6	5 Stars — Asked every year
Blood Relations	3 to 5	5 Stars — Asked every year
Coding and Decoding	3 to 5	4 Stars — Very frequent
Logical Puzzles / Arrangements	4 to 6	4 Stars — Very frequent
Syllogisms	2 to 4	4 Stars — Very frequent
Venn Diagrams	2 to 3	3 Stars — Regular
Statement and Conclusion	2 to 3	3 Stars — Regular
Direction and Distance	1 to 3	3 Stars — Regular
Visual / Spatial Reasoning	2 to 3	3 Stars — Regular
Analogies (Word / Number)	1 to 2	2 Stars — Occasional
Clocks and Calendars	1 to 2	2 Stars — Occasional

Numerical Ability — Foundation (26 Questions / 40 minutes)

Topic	Approx. Questions	Frequency

Time, Work and Pipes	3 to 5	5 Stars — Asked every year
Speed, Time and Distance / Trains	3 to 4	5 Stars — Asked every year
Percentages	2 to 4	5 Stars — Asked every year
Profit, Loss and Discount	2 to 4	4 Stars — Very frequent
Ratio, Proportion and Mixtures	2 to 3	4 Stars — Very frequent
Simple and Compound Interest	2 to 3	4 Stars — Very frequent
Data Interpretation (Tables/Charts)	2 to 4	4 Stars — Very frequent
Number System and HCF / LCM	2 to 3	4 Stars — Very frequent
Permutation and Combination	1 to 3	3 Stars — Regular
Probability	1 to 2	3 Stars — Regular
Geometry and Mensuration	1 to 2	2 Stars — Occasional
Algebra / Linear Equations	1 to 2	2 Stars — Occasional

■ *Foundation section: Speed is key. Aim to finish Verbal in 18 min, Reasoning in 45 min, Numerical in 38 min to have buffer time.*

SECTION 3: NUMERICAL ABILITY — 25 PRACTICE QUESTIONS WITH SOLUTIONS

■ *These questions are compiled from TCS NQT papers across 2021, 2022, 2023, 2024 and 2025 drives. Most have appeared 2+ times.*

Q1. If the cost price of 15 articles equals the selling price of 12 articles, find the gain percent.

Gain = (15 - 12) / 12 x 100 = 3/12 x 100 = 25%

✔ **Answer: 25% | Repeated 4+ times across drives**

Q2. A can do a piece of work in 12 days, B in 15 days. Working together, how many days will they take?

A's 1-day work = 1/12; B's 1-day work = 1/15

Together = 1/12 + 1/15 = 5/60 + 4/60 = 9/60 = 3/20

Days = 20/3 = 6.67 days (approximately 6 days 16 hours)

✔ **Answer: 6 and 2/3 days | Repeated 5+ times**

Q3. A sum becomes Rs 1352 in 2 years at 4% per annum compound interest. Find the principal.

A = P(1 + r/100)^n => 1352 = P x (1.04)^2 = P x 1.0816

P = 1352 / 1.0816 = Rs 1250

✔ **Answer: Rs 1250 | Repeated 3+ times**

Q4. A train 150 m long passes a pole in 15 seconds. How long to pass a 300 m platform?

Speed = 150 / 15 = 10 m/s

Total distance = 150 + 300 = 450 m

Time = 450 / 10 = 45 seconds

✔ **Answer: 45 seconds | Repeated 6+ times**

Q5. A shopkeeper marks goods 25% above cost price and gives a 10% discount. Find profit %.

Let CP = 100. MP = 125. SP = 125 x 0.90 = 112.5

Profit = SP - CP = 112.5 - 100 = 12.5%

✔ **Answer: 12.5% | Repeated 4+ times**

Q6. If 8 men can complete a job in 12 days, how many days will 6 men take for the same job?

Men x Days = constant => 8 x 12 = 6 x D

D = 96 / 6 = 16 days

✔ **Answer: 16 days | Standard work-men problem**

Q7. A boat goes 30 km upstream in 6 hours and 30 km downstream in 3 hours. Find speed of boat in still water.

Upstream speed = 30/6 = 5 km/h; Downstream speed = 30/3 = 10 km/h

Speed in still water = (10 + 5) / 2 = 7.5 km/h

✔ **Answer: 7.5 km/h | Repeated 3+ times**

Q8. A sum doubles itself in 8 years at simple interest. Find the rate of interest per annum.

If P doubles, SI = P. SI = PRT/100 => P = P x R x 8 / 100
R = 100 / 8 = 12.5% per annum
✔ **Answer: 12.5%**

Q9. Two pipes A and B can fill a tank in 20 and 30 minutes respectively. If both are opened together, in how many minutes will the tank be filled?

1-min work of A = 1/20; 1-min work of B = 1/30
Combined = 1/20 + 1/30 = 3/60 + 2/60 = 5/60 = 1/12
Tank fills in 12 minutes
✔ **Answer: 12 minutes | Very frequent — Pipes & Cisterns**

Q10. Find HCF of 36 and 84.

36 = 4 x 9 = 2^2 x 3^2; 84 = 4 x 21 = 2^2 x 3 x 7
HCF = 2^2 x 3 = 12
✔ **Answer: 12**

Q11. A car covers 300 km in 5 hours and a train covers 400 km in 8 hours. Find the ratio of their speeds.

Car speed = 300/5 = 60 km/h; Train speed = 400/8 = 50 km/h
Ratio = 60 : 50 = 6 : 5
✔ **Answer: 6:5**

Q12. In how many ways can 5 boys be arranged in a row?

This is a permutation: 5! = 5 x 4 x 3 x 2 x 1 = 120
✔ **Answer: 120 ways**

Q13. What is the probability of getting a head when a fair coin is tossed?

Total outcomes = 2 (Head, Tail); Favourable = 1 (Head)
Probability = 1/2 = 0.5
✔ **Answer: 1/2 | Basic probability — always appears**

Q14. The average of 5 numbers is 27. If one number is excluded, the average becomes 25. Find the excluded number.

Sum of 5 numbers = 5 x 27 = 135
Sum of remaining 4 = 4 x 25 = 100
Excluded number = 135 - 100 = 35
✔ **Answer: 35 | Averages — very frequent**

Q15. A 20% increase followed by a 20% decrease — what is the net change in value?

Net change = [20 + (-20) + (20 x (-20))/100] % = 0 - 4 = -4%
Net effect: 4% decrease
✔ **Answer: 4% decrease | Classic trap question — Repeated 5+ times**

Q16. The ratio of milk to water in a mixture is 3:1. If 8 litres of water is added, the ratio becomes 3:2. Find the original quantity of mixture.

Let milk = 3x, water = x. After adding: 3x / (x+8) = 3/2
6x = 3x + 24 => 3x = 24 => x = 8
Original mixture = 3(8) + 8 = 32 litres
✔ **Answer: 32 litres | Mixture & Alligation type**

Q17. Find the next number in the series: 2, 6, 12, 20, 30, ?

Pattern: n(n+1) i.e., 1x2, 2x3, 3x4, 4x5, 5x6 = 30
Next = 6 x 7 = 42
✔ **Answer: 42 | Series — Repeated 6+ times**

Q18. A man buys an item for Rs 800 and sells it for Rs 1000. Find the profit percentage.

Profit = 1000 - 800 = Rs 200
Profit % = (200/800) x 100 = 25%
✔ **Answer: 25%**

Q19. Rs 5000 is invested at 10% per annum compound interest for 2 years. Find the amount.

A = P(1 + r/100)^n = 5000 x (1.1)^2 = 5000 x 1.21 = Rs 6050
✔ **Answer: Rs 6050**

Q20. Two numbers are in ratio 4:5. Their LCM is 80. Find the numbers.

Let numbers = 4k and 5k. LCM = 20k = 80 => k = 4
Numbers = 16 and 20
✔ **Answer: 16 and 20**

Q21. A tank can be emptied by pipe C in 12 hours. Pipes A and B fill it in 4 and 6 hours. All three open together — in how long is tank filled?

Fill rate = 1/4 + 1/6 - 1/12 = 3/12 + 2/12 - 1/12 = 4/12 = 1/3
Tank fills in 3 hours
✔ **Answer: 3 hours**

Q22. A 100 m long train crosses a man in 10 seconds. Find its speed in km/h.

Speed = 100/10 = 10 m/s = 10 x (18/5) = 36 km/h
✔ **Answer: 36 km/h | Unit conversion — always asked**

Q23. How many integers between 1 and 100 are divisible by both 2 and 3?

Divisible by both 2 and 3 means divisible by LCM(2,3) = 6
Numbers: 6, 12, 18... 96 => floor(100/6) = 16 numbers
✔ **Answer: 16 | Number system type**

Q24. Find the area of a circle whose circumference is 44 cm. (Use pi = 22/7)

Circumference = 2*pi*r = 44 => r = 44 x 7 / (2 x 22) = 7 cm
Area = pi*r^2 = (22/7) x 49 = 154 sq. cm
✔ **Answer: 154 sq. cm | Mensuration**

Q25. What percent of 2/3 is 1/6?

Required % = (1/6) / (2/3) x 100 = (1/6 x 3/2) x 100 = (1/4) x 100 = 25%
✔ **Answer: 25% | Fractions & Percentages**

SECTION 4: REASONING ABILITY — 25 PRACTICE QUESTIONS WITH SOLUTIONS

■ *Reasoning questions test logical thinking and pattern recognition. These types repeat across almost every TCS NQT paper.*

Q1. If A is the son of B, B is the daughter of C, C is the father of D, how is A related to D?

B is daughter of C, so C is B's father.
D is also a child of C, so B and D are siblings.
A is son of B, so A is nephew/niece of D.
✔ **Answer: A is D's Nephew**

Q2. Find the odd one out: 8, 27, 64, 100, 125

8 = 2^3, 27 = 3^3, 64 = 4^3, 125 = 5^3 — all perfect cubes.
100 = 10^2 — NOT a perfect cube.
✔ **Answer: 100 | Repeated 5+ times**

Q3. Pointing to a photograph, a man says 'She is the daughter of my grandfather's only son.' How is the person in the photo related to the man?

Grandfather's only son = the man's father (assuming he has no uncles).
Daughter of his father = his sister.
✔ **Answer: Sister**

Q4. Complete the series: A, C, F, J, O, ?

Gaps: +2, +3, +4, +5, +6...
O is the 15th letter. Next = 15 + 6 = 21st letter = U
✔ **Answer: U | Letter series — Very frequent**

Q5. In a row of 40 students, Ravi is 11th from the left. Priya is 13th from the right. How many students are between them?

Priya's position from left = 40 - 13 + 1 = 28
Students between = 28 - 11 - 1 = 16
✔ **Answer: 16 | Ranking / Seating type**

Q6. If DELHI is coded as 73541, and CALCUTTA as 82589662, how is CALICUT coded?

C=8, A=2, L=5, I=4, C=8, U=6, T=9
CALICUT = 8254869
✔ **Answer: 8254869 | Coding-Decoding — Repeated 4+ times**

Q7. Statements: All dogs are cats. Some cats are parrots. Conclusion: Some dogs are parrots.

From 'All dogs are cats' and 'Some cats are parrots', we cannot confirm all dogs are in the parrot subset.
The conclusion does NOT necessarily follow.
✔ **Answer: Conclusion does not follow | Syllogism type**

Q8. Complete: 3, 7, 13, 21, 31, ?

Differences: 4, 6, 8, 10, 12 (increasing by 2)
Next term = 31 + 12 = 43
✔ **Answer: 43**

Q9. If Monday is coded as 2, Tuesday as 3, ... Sunday as 8, what is Friday coded as?

Monday=2, Tuesday=3, Wednesday=4, Thursday=5, Friday=6
✔ **Answer: 6 | Coding-Decoding**

Q10. A and B walk towards each other. A walks at 4 km/h from X and B at 6 km/h from Y. Distance XY = 100 km. When do they meet?

Relative speed = 4 + 6 = 10 km/h
Time = 100 / 10 = 10 hours
✔ **Answer: After 10 hours | Direction + Distance**

Q11. From the given Venn diagram data: Total=100, only A=20, only B=25, both A and B=15. Find only those not in A or B.

Not in A or B = Total - (only A + only B + both) = 100 - (20+25+15) = 40
✔ **Answer: 40 | Venn Diagrams — Repeated often**

Q12. P is taller than Q but shorter than R. R is not the tallest. S is taller than R. Who is the shortest?

Order: Q < P < R < S. Since Q is the lowest in this chain, Q is shortest.
✔ **Answer: Q**

Q13. If RAIN is coded as UCLA, how is COLD coded?

R+3=U, A+2=C, I+3=L, N+1=O — different shifts. Apply same logic to COLD.
C+3=F, O+2=Q, L+3=O, D+1=E => FQOE
✔ **Answer: FQOE | Variable shift coding type**

Q14. Three persons A, B, C sit in a row. A does not sit at the extreme ends. How many arrangements are possible?

A sits only in the middle position. B and C can be in 2! = 2 ways. Total = 2
✔ **Answer: 2 arrangements**

Q15. A clock shows 3:15. What is the angle between hour and minute hands?

At 3:00, angle = 90 degrees. In 15 min, hour hand moves 15 x 0.5 = 7.5 degrees.
Minute hand at 15 min = 90 degrees from 12.
Angle = 90 - 7.5 = 7.5 degrees
✔ **Answer: 7.5 degrees | Clocks — Repeated 3+ times**

Q16. Complete: 1, 1, 2, 3, 5, 8, 13, ?

Fibonacci series — each term = sum of previous two.
13 + 8 = 21
✔ **Answer: 21 | Classic series**

Q17. Statements: No cat is a dog. All dogs are animals. Conclusion: No cat is an animal.

Even though no cat is a dog, cats could still be animals via another path.
The conclusion is FALSE — it does not follow.
✔ **Answer: Does not follow | Syllogism**

Q18. If south-east becomes north, north-east becomes west, then what does south become?

SE->N (rotated 135 anticlockwise), NE->W (same 135 rotation).
S rotated 135 anticlockwise = NE
✔ **Answer: North-East | Direction Sense**

Q19. Which number replaces the question mark: 4, 9, 25, 49, 121, ?

2^2=4, 3^2=9, 5^2=25, 7^2=49, 11^2=121 — squares of primes (2,3,5,7,11)
Next prime = 13, 13^2 = 169
✔ **Answer: 169 | Squares of primes series**

Q20. A man walks 5 km north, then 3 km east, then 5 km south. How far is he from the starting point?

North and south cancel (5 km each). Net displacement = 3 km east.
✔ **Answer: 3 km east from starting point**

Q21. In a certain code, MONKEY = XDJMNK. How is TIGER coded?

M->X (+11), O->D (-11), N->J (-4), K->M (+2)... pattern is complex.
Each letter shifted in a specific pattern. Using same offsets: T->O, I->D, G->C, E->B, R->M => ODCBM
✔ **Answer: ODCBM | Coding-Decoding**

Q22. Six people are in a circle. A is between B and C. D is not next to A. E is next to D. F is between E and B. Who is next to C?

Arrangement: B-A-C-...-D-E-F-B (circular)
Following the constraints: C is next to A and D
✔ **Answer: A and D | Circular Arrangement**

Q23. If 'white' means 'black', 'black' means 'red', 'red' means 'yellow', 'yellow' means 'blue', what is the colour of sky?

Sky is normally 'blue'. In this coding, 'blue' stands for... nothing changes for blue.
Sky = blue = yellow (since yellow means blue in the code)
✔ **Answer: Yellow | Colour coding — Repeated 4+ times**

Q24. How many meaningful English words can be made from TPOSA using each letter only once?

TPOSA can form: TAPAS, PATOS, STOAP... Most valid = TAPOS, OATS, ATOP, TOPS, SPOT, STOP, POTS, OPTS
Most TCS answers expect: 4 or 5 words (depends on exact letters given in exam)
✔ **Answer: STOP, SPOT, POTS, TOPS, OPTS | Word formation**

Q25. A is 3 ranks ahead of B in a class of 40. B's rank from last is 10. What is A's rank from the start?

B's rank from start = 40 - 10 + 1 = 31
A is 3 ranks ahead: A's rank = 31 - 3 = 28
✔ **Answer: 28th from the start**

SECTION 5: VERBAL ABILITY — 25 PRACTICE QUESTIONS WITH SOLUTIONS

■ *Read 1 English passage daily to improve RC speed. For grammar questions, focus on subject-verb agreement, tenses, and articles.*

Q1. Choose the correct option: "He _____ to the office every day despite the long distance."

Options: A) go B) goes C) going D) gone
Subject = He (3rd person singular, present). Correct form = 'goes'.
✔ **Answer: B) goes | Subject-Verb Agreement — Repeated 5+ times**

Q2. Identify the error: 'She is one of the student who has passed the exam.'

'One of the students' requires the plural form.
'student' should be 'students'.
✔ **Answer: student => students | Error detection**

Q3. Fill in the blank: 'The committee has submitted _____ report to the board.'

Options: A) their B) his C) its D) our
'Committee' is a collective noun treated as singular => use 'its'.
✔ **Answer: C) its | Pronoun agreement**

Q4. Choose the synonym of LETHARGIC:

Options: A) Energetic B) Sluggish C) Alert D) Active
Lethargic = lazy, slow, lacking energy. Synonym = Sluggish.
✔ **Answer: B) Sluggish**

Q5. Choose the antonym of VERBOSE:

Options: A) Talkative B) Wordy C) Concise D) Eloquent
Verbose = using too many words. Antonym = Concise (using few words).
✔ **Answer: C) Concise**

Q6. Spot the error: 'Either the manager or the employees is responsible for this mistake.'

When using 'Either...or', the verb agrees with the nearer subject = 'employees' (plural).
So 'is' should be 'are'.
✔ **Answer: 'is' should be 'are' | Subject-Verb Agreement**

Q7. Fill in the blank: 'I have been waiting here _____ two hours.'

Options: A) since B) for C) from D) until
'Since' is for a point in time; 'for' is for a duration. 'two hours' = duration => 'for'.
✔ **Answer: B) for | Prepositions — Repeated 4+ times**

Q8. Choose the correctly spelt word:

Options: A) Priviledge B) Privilege C) Privlege D) Privilage
Correct spelling: P-R-I-V-I-L-E-G-E
✔ **Answer: B) Privilege**

Q9. Rearrange the jumbled sentence: 'books / she / reads / always / interesting'

Correct order: She always reads interesting books.
Subject + Adverb + Verb + Adjective + Object
✔ **Answer: She always reads interesting books | Para jumble**

Q10. Choose the word that best replaces the underlined phrase: 'He speaks in a very roundabout way without coming to the point.'

Options: A) Verbose B) Cryptic C) Circuitous D) Blunt
Roundabout / not coming to the point = Circuitous (indirect)
✔ **Answer: C) Circuitous | One-word substitution**

Q11. Identify the correctly punctuated sentence:

Options: A) Its raining, outside. B) It's raining outside. C) Its' raining outside. D) Its raining outside.
'It's' = contraction of 'it is'. The sentence needs an apostrophe.
✔ **Answer: B) It's raining outside.**

Q12. Fill in the blank: '_____ he studied hard, he failed the exam.'

Options: A) Because B) Although C) Since D) Therefore
The sentence shows contrast (studied hard but failed) => 'Although'
✔ **Answer: B) Although | Conjunctions — Frequent**

Q13. Choose the meaning of the idiom: 'Bite the bullet'

Options: A) Eat something hard B) Endure a painful situation C) Give up D) Fight hard
'Bite the bullet' = endure pain or hardship without complaining.
✔ **Answer: B) Endure a painful situation**

Q14. Select the correct passive voice: 'The teacher is teaching the students.'

Active: The teacher is teaching the students.
Passive: The students are being taught by the teacher.
✔ **Answer: The students are being taught by the teacher | Voice — Repeated 3+ times**

Q15. Identify the correct reported speech: She said, 'I am going to the market.'

Direct: 'I am going to the market.'
Reported: She said that she was going to the market.
✔ **Answer: She said that she was going to the market | Narration**

Q16. Choose the synonym of BENEVOLENT:

Options: A) Cruel B) Generous C) Miserly D) Selfish
Benevolent = well-meaning, kind, charitable => Generous
✔ **Answer: B) Generous**

Q17. Fill in the blank: 'The number of accidents _____ increased this year.'

Options: A) have B) has C) are D) were
'The number of' takes a singular verb => 'has'
✔ **Answer: B) has | Tricky subject-verb agreement**

Q18. Which sentence uses the article correctly?

Options: A) He is an honest man. B) He is a honest man. C) He is the honest man. D) He is honest man.
'Honest' starts with a vowel sound /o/, so use 'an' not 'a'.
✔ **Answer: A) He is an honest man. | Articles — Repeated 5+ times**

Q19. Choose the antonym of FRUGAL:

Options: A) Thrifty B) Economical C) Extravagant D) Careful
Frugal = economical, not wasteful. Antonym = Extravagant (spending a lot).
✔ **Answer: C) Extravagant**

Q20. Spot the error: 'He had went to the market before she arrived.'

'Had went' is incorrect. Past perfect requires past participle: 'gone'.
Correct: 'He had gone to the market before she arrived.'
✔ **Answer: 'went' should be 'gone' | Tense error**

Q21. Fill in: 'Neither the manager nor the employees _____ informed about the decision.'

When 'neither...nor' is used, verb agrees with the nearer subject = 'employees' (plural).
So the blank = 'were'
✔ **Answer: were | Correlative conjunctions**

Q22. Choose the sentence with correct word usage:

A) She complemented him on his work. B) She complimented him on his work.
'Complement' = complete/match. 'Compliment' = praise. Context needs praise => 'complimented'.
✔ **Answer: B) She complimented him on his work. | Confusable words**

Q23. Reading Comprehension tip — What is the best approach in TCS NQT RC?

1. Skim the passage in 60-90 seconds to get the main idea.
2. Read questions first, then find answers in the passage.
3. For 'Title' questions — pick the most general option that covers the whole passage.
4. Eliminate extreme/absolute options (words like 'always', 'never', 'only').

✔ **Tip: RC questions are inference-based — the answer is in the passage, not your opinion**

Q24. Identify the meaning of: 'A penny saved is a penny earned.'

Options: A) Saving money is waste of time B) Being thrifty is as good as earning C) One must earn to save D) Penny is a small amount.

The proverb means: saving money has the same value as earning it.

✔ **Answer: B) Being thrifty is as good as earning | Proverb/Idiom**

Q25. Choose the option that best fills: 'The project was completed _____ schedule, surprising everyone.'

Options: A) in B) on C) ahead of D) behind

'Completed ahead of schedule' means finished before the deadline — which would surprise people.

✔ **Answer: C) ahead of | Preposition in context**

SECTION 6: PROGRAMMING LOGIC MCQs — 25 QUESTIONS WITH ANSWERS

■ *These are concept-based MCQs in the Foundation section. No coding required — but deep understanding of C, Java, Python, DS and Algorithms is tested.*

Q1. What is the output of: print(type(5/2)) in Python 3?

In Python 3, '/' always performs true (float) division.
5/2 = 2.5. type(2.5) =
✔ **Answer: | Python basics — Repeated 5+ times**

Q2. What is the time complexity of Binary Search?

Binary Search divides the array in half each step.
T(n) = T(n/2) + O(1) => Time complexity = O(log n)
✔ **Answer: O(log n) | Algorithms — Always asked**

Q3. Which data structure follows LIFO (Last In, First Out)?

Stack — the last element pushed is the first to be popped.
Example: Function call stack, undo operations.
✔ **Answer: Stack | Data Structures — Very frequent**

Q4. What will be printed? x = 10; y = 3; print(x % y)

'%' is modulus — gives remainder of x divided by y.
10 % 3 = 1 (since 10 = 3x3 + 1)
✔ **Answer: 1 | Operators**

Q5. What is the space complexity of Merge Sort?

Merge Sort requires auxiliary array for merging.
Space complexity = O(n)
✔ **Answer: O(n) | Space complexity**

Q6. Which sorting algorithm is stable?

Stable algorithms preserve the relative order of equal elements.
Merge Sort and Bubble Sort are stable. Quick Sort is NOT stable by default.
✔ **Answer: Merge Sort | Sorting properties — Repeated 3+ times**

Q7. Output of: for i in range(1, 10, 3): print(i)

range(1, 10, 3) generates: 1, 4, 7
Prints: 1 then 4 then 7
✔ **Answer: 1 4 7 | Python loops — Repeated 4+ times**

Q8. Name the 4 pillars of OOP.

1. Encapsulation — binding data and methods together, hiding internal state.
2. Inheritance — child class acquires properties of parent class.
3. Polymorphism — same interface, different behavior (overloading/overriding).
4. Abstraction — hiding implementation, exposing only necessary features.

✔ **Answer: Encapsulation, Inheritance, Polymorphism, Abstraction | Always asked**

Q9. What is the difference between '==' and 'is' in Python?

'==' checks value equality: 5==5 is True.
'is' checks identity (same memory object): a is b checks if both point to same object.

✔ **Answer: '==' compares values; 'is' compares memory identity**

Q10. What is the worst-case time complexity of Quick Sort?

Worst case occurs when the pivot is always the smallest or largest element.
Worst-case: O(n^2). Average case: O(n log n)

✔ **Answer: O(n^2) | Quick Sort — Repeated 4+ times**

Q11. What does the 'break' statement do in a loop?

'break' immediately terminates the loop, and control goes to the next statement after the loop.
Compare: 'continue' skips the current iteration but does not exit the loop.

✔ **Answer: Exits/terminates the loop immediately**

Q12. What is a NULL pointer?

A pointer that does not point to any valid memory address.
Dereferencing a NULL pointer causes a segmentation fault / runtime error.

✔ **Answer: A pointer pointing to no valid address (value = 0 or NULL)**

Q13. What is the output? a = [1,2,3]; b = a; b.append(4); print(a)

In Python, lists are mutable and assigned by reference.
b = a means both b and a point to the SAME list.
Appending to b also changes a. Output: [1, 2, 3, 4]

✔ **Answer: [1, 2, 3, 4] | Python reference vs copy — Repeated 3+ times**

Q14. What is the difference between a compiler and an interpreter?

Compiler: translates entire source code to machine code at once before execution (e.g., C, C++).
Interpreter: translates and executes code line by line (e.g., Python, JavaScript).

✔ **Answer: Compiler = all at once; Interpreter = line by line**

Q15. What is a recursive function? Give a condition it must have.

A function that calls itself to solve a sub-problem.
It MUST have a base case (termination condition) to prevent infinite recursion.
✔ **Answer: A function calling itself + must have a base case**

Q16. Time complexity of accessing an element in an array by index?

Arrays provide direct address computation: address = base + index * size.
Access time is constant regardless of array size. Time = O(1)
✔ **Answer: O(1) | Array complexity**

Q17. What is the output? print(bool(0), bool(''), bool([]), bool(1))

In Python, 0, empty string, and empty list are all Falsy.
bool(0)=False, bool('')=False, bool([])=False, bool(1)=True
Output: False False False True
✔ **Answer: False False False True | Python truthy/falsy**

Q18. What is an abstract class?

A class that cannot be instantiated directly.
It can have abstract methods (no implementation) that must be overridden by subclasses.
Used to define a template/interface for subclasses.
✔ **Answer: A class with at least one abstract method that cannot be instantiated**

Q19. What is the difference between ArrayList and LinkedList in Java?

ArrayList: backed by a dynamic array. Fast random access O(1). Slow insert/delete in middle O(n).
LinkedList: doubly linked nodes. Slow random access O(n). Fast insert/delete O(1) with iterator.
✔ **Answer: ArrayList=fast access; LinkedList=fast insert/delete**

Q20. What is a constructor in OOP?

A special method automatically called when an object is created.
It has the same name as the class and no return type (in Java/C++).
Purpose: initialise the object's attributes.
✔ **Answer: Special method called at object creation to initialise attributes**

Q21. What does DRY stand for in programming principles?

DRY = Don't Repeat Yourself.
Every piece of logic should exist in exactly one place in the codebase.
Reduces redundancy, makes code easier to maintain.
✔ **Answer: Don't Repeat Yourself**

Q22. What is the output of: print(210) in Python?**

'**' is the exponentiation operator in Python.
2**10 = 2^10 = 1024
✔ **Answer: 1024 | Python operators**

Q23. What is the difference between deep copy and shallow copy in Python?

Shallow copy: copies the object but still references the same inner objects.
Deep copy: copies the object AND all nested objects recursively.
Use copy.deepcopy() for a complete independent clone.
✔ **Answer: Shallow=same inner refs; Deep=fully independent copy**

Q24. What is the time complexity of inserting an element at the beginning of a singly linked list?

To insert at beginning: create new node, point it to current head, update head.
This takes constant time regardless of list size. Time = O(1)
✔ **Answer: O(1) | Linked List**

Q25. What does OOPS 'Polymorphism' mean? Give an example.

Polymorphism = many forms. Same method name behaves differently based on context.
Method Overloading: same name, different parameters (compile-time).
Method Overriding: child class redefines parent method (runtime).
Example: Animal.speak() => Dog: bark(), Cat: meow()
✔ **Answer: Same method, different behaviour | Always asked in interviews too**

SECTION 7: TCS NQT CODING QUESTIONS — FULL SOLUTIONS

The Advanced Coding section contains 2 questions in 45 minutes. Problems are given as real-world scenarios. You must write complete, working code. Partial credit may apply. Always handle edge cases.

■ *Recommended: Python (fastest to write). Java is also fine. Use C/C++ only if you are very comfortable.*

Coding Q1 — Push Zeros to End (Array Manipulation)

A chocolate factory packs chocolates in packets. Empty packets are represented by 0 in an integer array of size N. Move all 0s to the end while maintaining the relative order of non-zero elements.

Example: Input: N=8, arr=[4,5,0,1,9,0,5,0] Output: 4 5 1 9 5 0 0 0

```
# Python Solution — O(n) time, O(n) space
def push_zeros(arr):
non_zero = [x for x in arr if x != 0]
zeros = [0] * (len(arr) - len(non_zero))
return non_zero + zeros
n = int(input())
arr = [int(input()) for _ in range(n)]
print(*push_zeros(arr))
```

Coding Q2 — Odd-Even Vehicle Fine (Simulation / Conditions)

Delhi government allows odd-numbered vehicles on odd dates and even-numbered on even dates. Given date D, number of vehicles N, and their last digits, and fine amount X, calculate total fine.

Example: Input: N=6, D=12, X=200, digits=[1,2,5,3,4,7] Output: 800 (vehicles 1,5,3,7 violated)

```
# Python Solution
n = int(input())
d = int(input())
x = int(input())
fine = 0
for _ in range(n):
digit = int(input())
if d % 2 == 0 and digit % 2 != 0:
fine += x # even day, odd vehicle = violation
elif d % 2 != 0 and digit % 2 == 0:
fine += x # odd day, even vehicle = violation
print(fine)
```

Coding Q3 — Fibonacci Custom Sequence (Math / Series)

Print first N terms of a Fibonacci-like sequence where the first two terms are given as A and B (instead of 0 and 1). Each subsequent term = sum of two preceding terms.

Example: Input: A=3, B=5, N=7 Output: 3 5 8 13 21 34 55

```
# Python Solution
a = int(input())
b = int(input())
n = int(input())
seq = [a, b]
for i in range(2, n):
```

```
seq.append(seq[-1] + seq[-2])
print(*seq[:n])
```

Coding Q4 — Check Prime and List Primes (Number Logic)

Given a number N, check if it is prime. If prime, print 'Prime'. If not, print 'Not Prime'. Either way, print all prime numbers from 2 to N.

Example: Input: N=20 Output: Not Prime | 2 3 5 7 11 13 17 19

```
# Python Solution
def is_prime(n):
if n < 2: return False
for i in range(2, int(n**0.5) + 1):
if n % i == 0: return False
return True
n = int(input())
print('Prime' if is_prime(n) else 'Not Prime')
primes = [i for i in range(2, n+1) if is_prime(i)]
print(*primes)
```

Coding Q5 — Reverse and Check Palindrome (String / Number)

Given a number N, print its reverse. Then check if the number is a palindrome. Print 'Palindrome' or 'Not Palindrome'.

Example: Input: 12321 Output: 12321 | Palindrome

```
# Python Solution
n = int(input())
rev = int(str(n)[::-1])
print(rev)
print('Palindrome' if n == rev else 'Not Palindrome')
```

Coding Q6 — Maximum Subarray Sum (Array — Kadane's Algorithm)

Given an array of N integers (may include negatives), find the maximum sum of any contiguous subarray.

Example: Input: arr=[-2, 1, -3, 4, -1, 2, 1, -5, 4] Output: 6 (subarray: [4,-1,2,1])

```
# Python Solution — Kadane's Algorithm O(n)
n = int(input())
arr = [int(input()) for _ in range(n)]
max_sum = cur = arr[0]
for x in arr[1:]:
cur = max(x, cur + x)
max_sum = max(max_sum, cur)
print(max_sum)
```

SECTION 8: TCS INTERVIEW ROUNDS — TR, MR AND HR GUIDE

Round 1 — Technical Interview (TR) | 30 to 45 minutes

Conducted by TCS technical panel. Covers: Data Structures, OOP, DBMS, OS, Computer Networks, and your final year project. Sometimes includes whiteboard/live coding.

QTR. Explain OOP and its 4 pillars with real examples.

Encapsulation: class with private variables and public methods (e.g., BankAccount with private balance).
Inheritance: Dog extends Animal — Dog gets all Animal properties.
Polymorphism: Animal.speak() overridden as Dog.bark() and Cat.meow().
Abstraction: Abstract class Vehicle — subclasses implement start().

QTR. What is normalization? Explain 1NF, 2NF, and 3NF.

1NF: Atomic values only — no repeating groups in columns.
2NF: 1NF + No partial dependency (all non-key columns depend on full primary key).
3NF: 2NF + No transitive dependency (no non-key column depending on another non-key column).
✔ **Purpose: Remove redundancy and improve data integrity**

QTR. Difference between process and thread.

Process: independent program in execution with its own memory space.
Thread: lightweight unit of a process, shares the same memory space with other threads.
Threads are faster to create but risk data corruption without synchronisation.

QTR. What is a deadlock? How is it prevented?

Deadlock: two or more processes wait indefinitely for each other's resources.
Prevention strategies: Resource Ordering, Banker's Algorithm, Timeout, Avoid Hold and Wait.

QTR. Difference between TCP and UDP.

TCP: Connection-oriented, reliable, ordered. Used in HTTP, FTP, email.
UDP: Connectionless, fast, no guarantee. Used in video streaming, DNS, gaming.

Round 2 — Managerial Round (MR) | 20 to 30 minutes

Tests problem-solving, team management thinking, and project awareness. Use the STAR method: Situation, Task, Action, Result.

QMR. Tell me about your final year project. What was your contribution?

Describe: Title, technology used, your specific role, challenges you solved, outcome.
Quantify if possible: 'reduced processing time by 30%', 'handled 500 records', etc.
✔ **Never say 'I just helped' — own your contribution clearly**

QMR. If a client gives you an impossible deadline, what do you do?

Acknowledge the deadline, assess what is achievable, communicate clearly.
Propose a phased delivery: core features first, enhancements later.
Never silently agree and then miss — proactive communication is key.

QMR. Describe a time you disagreed with a teammate. How was it resolved?

Use STAR: Situation — disagreement on approach. Task — deliver on time.
Action — had a one-on-one discussion, presented data to support your view, listened to theirs.
Result — reached a compromise, project was successful.

Round 3 — HR Round | 15 to 25 minutes

Tests personality, attitude, company knowledge, and cultural fit. Key topics to prepare:

- Self Introduction — 90-120 seconds, structured: Name, Education, Skills, Projects, Goals
- Why TCS — 3 genuine points: scale, learning, brand, diverse projects
- Strengths and Weaknesses — always end weakness with improvement action
- Relocation and shift willingness — always say YES
- Career goals — short-term (learn, contribute) and long-term (lead, grow globally)
- TCS Knowledge — CEO: K. Krithivasan, Chairman: N. Chandrasekaran, Founded: 1 April 1968
- Salary expectations — say 'as per company norms' for fresher interviews
- Question to ask — 'What skills should I focus on before joining the organisation?'

SECTION 9: 4-WEEK TCS NQT PREPARATION STRATEGY

Week 1 — Build Foundations

1. Daily 2 hours: Percentage, Profit-Loss, Time-Work (practice 15 questions/day).
2. Daily 20 Reasoning questions: focus on Number Series and Blood Relations.
3. Read one English passage every day to build RC speed and vocabulary.
4. Python/Java: revise loops, arrays, strings, functions, and recursion.
5. Study OOP: class, object, constructor, inheritance, polymorphism, abstraction.
6. End of week: take 1 Foundation mock test and review all errors.

Week 2 — Identify and Fix Weak Areas

1. Take 2 full Foundation mock tests. Categorise errors topic by topic.
2. Focus 60% of time on your 3 weakest topics from mock test analysis.
3. Solve 5 Easy-level coding problems on LeetCode/HackerRank daily.
4. Study DBMS: SQL JOINs, normalization (1NF/2NF/3NF), ACID properties.
5. Study OS: process vs thread, deadlock, paging, virtual memory.
6. Study Computer Networks: OSI 7-layer model, TCP vs UDP, HTTP vs HTTPS, DNS.

Week 3 — Advanced Practice

1. Attempt 2 Part B (Advanced) mock tests — timing is critical.
2. Solve 3 Medium-level LeetCode coding problems daily.
3. Practice TCS-style scenario coding: array manipulation, simulation, number logic.
4. Revise DS&A;: Arrays, Strings, Stack, Queue, Linked List, Tree, Graph (BFS/DFS).
5. Sorting: know Bubble Sort O(n^2), Merge Sort O(n log n), Quick Sort O(n log n).
6. Prepare STAR-format stories for: teamwork, challenge overcome, failure & learning.

Week 4 — Full Simulation and Final Revision

1. Simulate 2 complete 190-minute TCS NQT exams under strict exam conditions.
2. Review formula sheet: SI/CI, Speed-Distance-Time, Boats, Percentages.
3. Prepare and rehearse 2-minute self-introduction out loud (time yourself).
4. Research TCS: latest revenue (~$29B FY2024), CEO, recent news, services, awards.
5. Night before exam: review Quick Checklist (Section 10 of this guide).
6. Get 7-8 hours of sleep. Eat well. Carry all documents. Reach 30 min early.

Recommended Preparation Platforms

Platform	Best Used For
TCS iON Official	Official mock tests — closest to real exam exper
PrepInsta	TCS-specific question bank, topic-wise practice

LeetCode	Coding: Easy for Ninja, Medium for Digital, Hard
HackerRank	Coding practice + TCS-style scenario problems
GeeksforGeeks	DS&A theory, DBMS, OS, Computer Networks c
IndiaBix	Aptitude and Reasoning practice — large questi
YouTube	Search 'TCS NQT 2024 experience' for real can

SECTION 10: QUICK REVISION CHECKLIST — NIGHT BEFORE EXAM

01.	Exam is 190 min: Part A (Foundation ~110 min) + Part B (Advanced ~80 min)
02.	No negative marking — attempt EVERY question, never leave any blank
03.	Questions are LOCKED — cannot go back after submitting; read carefully before clicking
04.	DO NOT switch browser tabs — exam terminates immediately
05.	Carry: Valid Govt Photo ID + Hall Ticket printout + Pen + Notebook
06.	Reach exam centre 30 minutes early. Carry printout of confirmation email.
07.	Most repeated Numerical: Time-Work, Trains, Profit-Loss, Averages, CI/SI
08.	Most repeated Reasoning: Number Series, Blood Relations, Coding-Decoding, Syllogisms
09.	Most repeated Verbal: RC (always 6-8 Qs), Articles, Subject-Verb Agreement, Fill in Blanks
10.	Coding: Arrays (push zeros), simulation (vehicle fine), string manipulation, prime check
11.	OOP pillars: Encapsulation, Inheritance, Polymorphism, Abstraction
12.	DBMS: 1NF/2NF/3NF + ACID properties + SQL JOINs (INNER/LEFT/RIGHT/FULL)
13.	OS: Process vs Thread + Deadlock + Paging + Semaphore
14.	Networks: OSI 7 layers + TCP (reliable) vs UDP (fast) + HTTP vs HTTPS
15.	TCS CEO: K. Krithivasan | Chairman: N. Chandrasekaran | Founded: 1 April 1968
16.	Salary: Ninja = Rs 3.36 LPA | Digital = Rs 7-8 LPA | Prime = Rs 9-12 LPA
17.	Self Introduction ready: Name, Education, Skills, Projects, Goals (90-120 sec)
18.	Sleep 7-8 hours. Eat a proper meal before the exam. Stay calm and confident.

You Are Fully Prepared. Now Go Crack It!

Best wishes from the Placementdriveinsta.in Team

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Latest Placement Drives	TCS, Infosys, Wipro, Accenture, Cognizant, HCL, Capgemini and 100+ companies — we track and post every fresher and lateral hiring drive as soon as it is announced.
Interview Preparation Material	Comprehensive, regularly updated preparation guides for aptitude tests, coding rounds, HR interviews, group discussions, and technical rounds across all major companies.
Exam Pattern Updates	We monitor pattern changes in TCS NQT, Infosys InfyTQ, Accenture, Wipro Elite, and other placement exams and update our guides immediately when patterns change.
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