



Interview Preparation
Programming + Aptitude



# **OVERVIEW**

You will learn the basics of Programming Language - Java and necessary concepts to solve problems of TCS, CTS, IBM etcand aptitude concepts like Numeric Ability, Logical reasoning Quantitative, Data Interpretation, Verbal Reasoning and much more.

#### **FEATURES**











## INTRODUCTION TO PROGRAMMING [JAVA]

TOPIC	SUB-TOPICS	DETAILS
BASICS OF PROGRAMMING	Flowcharts	Introduction to flow- charts, Decision making using flowcharts, Loops, Example problems
	Variables and Data types	First program, Variables and data types, Taking input, How data is stored in memory, Arith- metic Operators
	Conditional statements	Introduction to If else, Relational and logical operators, Nested conditionals
LOOPS AND FUNCTIONS	While loops	While loops, Flow of execution of statements in while loop, Example problems using while loop
	Patterns	Introduction to patterns, Basic Patterns, Square Patterns, Triangular Patterns, Character Patterns, Reverse Triangle, Inverted patterns, Isosceles triangles



TOPIC	SUB-TOPICS	DETAILS
LOOPS AND FUNCTIONS	For loops	For loops, Break and Continue, increment - decrement operators
	Functions	Introduction to functions, Working of function calling, Vari- ables and its scope, Pass by value
	Introduction to arrays	Introduction to arrays, How arrays are stored in memory, Passing arrays to functions
ARRAYS	Searching and Sorting	Understanding Binary Search, Selection sort, Bubble sort, Insertion sort, Merging two sorted arrays
STRINGS AND 2D ARRAYS	Strings	Introduction to strings, storage of strings and their inbuilt functions
	2D Arrays	2D arrays, Storage of 2D arrays, Example problems using 2D Arrays



#### **APTITUDE PREPARATION:**

TOPIC	SUB-TOPICS	DETAILS
NUMBERS	Introduction to Number System	Number System, Remainder theorem, Unit Digit
	Progressions	Arithmetic progression, Geometric progression
	HCF and LCM	Finding factors of a number, Shortcuts for finding prime number, Concept of HCF, Problem Solving on HCF, Concept of LCM, Problem Solving on LCM
AVERAGES AND MIXTURES	Averages	Introduction to Averages, Assumed average approach, Standard Situation in Averages, Concept of Weighted Averages, Standard Situations involving weighted average
	Alligations	Introduction to alligations, Standard problems involving using alligations



TOPIC	SUB-TOPICS	DETAILS
NETIC AND WORD PROBLEMS	Percentages	Concept of percentages, Concept of percentage change, Percentage Change Graphic, PCG applied to Product change, PCG Applied to Product Constancy, Product Constancy Table, The fractional view to the product constancy table, PCG applied to succes- sive percentage change
THMETIC AN	Ratio, Proportion and Variation	Concept of Ratios, Multiplier logic, Concept of proportion Variation and its types
ARII	Profit and loss	Basic concept of Profit and loss, Concept of Simple Interest, Concept of Compound Interest
	Time and work	Introduction to Time and Work, Time and work (Man Days), Men, Women and Children



TOPIC	SUB-TOPICS	DETAILS
COUNTING	Probability	Basics of Probability, Problems on Coins, Problems Based on Dice, Problems Based on Cards, Problems Based on Balls from the Box, Word Based problems on Probability
	Permutation and Combination	Introduction to Permutation and Combination, The selection Formula, Distribution of Identical Objects, Formula for Arrangements, Circular arrangement
TIME, SPEED AND DISTANCE	Introduction to Time, Speed and Distance	Introduction to Time, Speed, Distance The proportionalities in equations. Solving problems on TSD
	Relative Speed	The concept of Relative Speed. Questions based on Relative Speed
	Application of TSD	Concept of Circular Motion, Train problems Boats and Stream problems, Races and Games



TOPIC	SUB-TOPICS	DETAILS
<u>o</u>	Recognising Patterns	Recognising alphabeti- cal patterns, Recognis- ing numerical patterns, Coding Decoding Ques- tion Patterns
REASONING	Syllogisms	Introduction to Syllogisms, Problems on Syllogisms
• • • • • • • • • • • • • • • • • • •	Blood relation and calendars	Solving problems on Blood Relations, Concept of Calendar, Problems on Calendar
ENGLISH	Reading Comprehension	Reading effectively read- ing comprehension, How to find main idea, Solving reading comprehension
	Sentence completion/Fill ups	Theory of Fill Ups/ sentence completion, Questions on sentence completion
	Vocab, Antonym and Synonyms	Introduction to English, Vocab-Root Words, Synonyms and Antonyms



TOPIC	SUB-TOPICS	DETAILS
DATA INTERPRETATION	Basic Concept of Data interpretation	Introduction to Data interpretation, Problems on Data interpretation
	Charts	Reading Pie charts, Reading Bar Charts, Reading tables and X-Y Charts, Problems on Charts
OPICS	Set theory	Introduction to Set Theory, Problems on Set theory
ANEOUS TOPICS	Log	Introduction to logs, Problems on logs
WISCELL,	Mensuration	Cubes and Cuboids, Spheres and Cylinders, Cones, Prisms and Pyra- mids



## **TESTIMONIALS**



**JAYAN BATHLA** 

"My experience at Coding Ninjas was amazing as the course covered all the topics that were required for the industry. The difference between this and the other platforms as per me is the essence of communication. was able to clarify all my doubts from the faculty as well as the Teaching Assistants easily."



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**VANSHI JAIN** 

"The faculty at Coding Ninjas were the encouraging factor in my course. They helped me understand the crucial topics like Recursion, Backtracking and DP in a blink of an eye. This journey of coding broke all my myths about coding being a mere task of the experts as I was able to deal with the hard coding problems easily."



**ISHAN ARORA** 

"My experience with Coding Ninjas was great in both the aspects, firstly being a student then a Teaching Assistant. The faculty were outstanding and lectures were easy to understand. The course helped me by transforming my journey of programming."