



**GATE  
WALLAH**

# **GATE 2024**

## **ONLINE TEST SERIES**

### **TEST OVERVIEW OF CS & IT ENGINEERING**

<b>Test Category</b>	<b>No of Tests</b>	<b>Test Starting From Date</b>
Topic Wise Test	46	<b>23<sup>rd</sup> July 2023</b>
Subject Wise Test	24	<b>22<sup>nd</sup> August 2023</b>
Multiple Subject Test	4	<b>24<sup>th</sup> September 2023</b>
GATE Before GATE	14	<b>22<sup>nd</sup> October 2023</b>
GATE PYQs (2016-2023)	11	<b>1<sup>st</sup> November 2023</b>
<b>Total 99 Tests</b>		

**Please note the following information regarding the GATE tests conducted by GATE WALLAH.**

- \* The syllabus for the tests is based on the previous year's GATE notification.
- \* Each test will be made available at 09:00 AM on the scheduled day.
- \* The tests will remain accessible until the GATE-2024 exam.



# TEST SERIES STRUCTURE

**GATE 2024  
Online Test Series  
(23-July-2023)**

**Topic Wise Tests (46)**

**TWT 1  
To  
TWT 12**

Theory of Computation , Compiler Design Algorithms-1, Programming and Data Structures-1 & Digital Logic

**TWT 13  
To  
TWT 22**

Algorithms-2, Programming and Data Structures-2 & Computer Networks

**TWT 23  
To  
TWT 40**

Operating System, Databases, Computer Organization and Architecture

**TWT 41  
To  
TWT 46**

Discrete Mathematics, Engineering Mathematics and General Aptitude

**Subject Wise  
Tests (24) (2 Sets  
of Each Subject)**

**SWT 1 to SWT 12  
(First Cycle)**

**SWT 13 to SWT 24  
(Second Cycle)**

**Multiple Subject  
Tests (4)**

**MST 1**

Theory of Computation, Compiler Design & Digital Logic

**MST 2**

Programming And Data Structures, Algorithms & Computer Networks

**MST 3**

Databases, Computer Organization and Architecture & Operating system

**MST 4**

Discrete Mathematics, Engineering Mathematics & General Aptitude

**Full Syllabus**

**GATE Before  
GATE**

**GBG 1 To GBG 12  
(Basic to Advanced)**

**GBG 13 & GBG 14  
(Confidence Booster)**

**GATE PYQS  
(11 Practice Tests)  
(2016-2023)**

# TOPIC WISE TESTS

Total Questions: 13 | Marks: 20  
Test Duration: 40 Min

Test No	Subject	Test Syllabus (Topic Names)	Test Activation Date
TWT 1	Theory of Computation & Compiler Design	<b>Regular expressions and finite automata:</b> DFA, NFA, FA Interconversion, Minimization, Mealy Machine, Moore Machine, Construction of Regular Expression, Interconversion RE to FA, Regular Grammar, Regular Language, Pumping lemma	23 <sup>rd</sup> July 2023
TWT 2	Theory of Computation & Compiler Design	<b>Context-free Grammar and Push-down automata:</b> CFG, PDA, CFL Identification, Closure Properties of CFL, Context Free Language	
TWT 3	Digital Logic	<b>Number System, Binary Codes, Boolean Algebra, Logic Gates and K-Maps:</b> Radix based number system, Conversion, Signed binary numbers, BCD codes ,Boolean Algebra, Logic Gates and K-Maps	
TWT 4	Digital Logic	<b>Combinational Logic Circuits:</b> Code Converter, Arithmetics Circuits, BCD to Excess-3/Excess-3 to BCD converter circuits using binary adder, BCD adder and Subtractor, Binary Comparator Circuits, Multiplexer, Decoder/DEMUX, Encoder and Priority Encoder	
TWT 5	Programming and Data Structures	<b>Programming in C-1:</b> Data types and Operators, Control Flow Statements	
TWT 6	Programming and Data Structures	<b>Programming in C-2:</b> Functions and Storage Classes	
TWT 7	Algorithms	<b>Asymptotic Analysis and space complexity:</b> Asymptotic Notation, Finding Time Complexity, Solving Recurrence Relation (Substitution Method)	
TWT 8	Algorithms	<b>"Algorithm Design Techniques:</b> Divide and Conquer Quick Sort, Merge Sort, Max-Min, Binary Search, Matrix Multiplication, Recursion tree method and Master Method"	
TWT 9	Theory of Computation & Compiler Design	<b>Turing Machines and Undecidability:</b> Turing Machine, REC and RE language Identification, Closure Properties of REC and REL's, Undecidability	
TWT 10	Theory of Computation & Compiler Design	<b>Lexical analysis and Parsing:</b> Phases of Compiler, Basics of Lexical Analysis, Finding the Tokens, Top Down and Bottom Up parser	
TWT 11	Theory of Computation & Compiler Design	<b>"Syntax-directed translation and Intermediate code generation, Runtime environments, Local optimization, Data flow analysis:</b> Constant propagation,Liveness analysis, Common Subexpression Elimination"	28 <sup>th</sup> July 2023

Test No	Subject	Test Syllabus (Topic Names)	Test Activation Date
TWT 12	Digital Logic	<b>Sequential Circuits:</b> Flip-Flops, Registers, Asynchronous Counter, Synchronous Counter	28 <sup>th</sup> July 2023
TWT 13	Computer Networks	<b>"Basic Concepts and IPv4 Addressing:</b> Fundamental of Networks, Topologies, OSI Model, Introduction to IP Addressing Classful Addressing, Types of Communication, Subnetting, Classless Addressing, Supernetting "	
TWT 14	Computer Networks	<b>Data Link Layer and MAC Sublayer:</b> Flow Control Policies of Data Link Layer, Error Control Policies, Framing, Pure Aloha, Slotted Aloha, CSMA, CSMA/CD	
TWT 15	Programming and Data Structures	<b>Programming in C-3:</b> Pointers and Strings	
TWT 16	Programming and Data Structures	Arrays, Stacks and Queues, Hashing	
TWT 17	Programming and Data Structures	Linked Lists, Trees, Binary Search Trees, Binary Heaps	2 <sup>nd</sup> August 2023
TWT 18	Algorithms	<b>Searching and Sorting:</b> Insertion Sort, Selection Sort , Bubble Sort, Radix Sort, Linear Search	
TWT 19	Algorithms	<b>Greedy and Dynamic Technique:</b> Minimum spanning trees, Shortest paths and Dynamic Programming	
TWT 20	Algorithms	<b>Miscellaneous:</b> Graphs , Heaps	
TWT 21	Computer Networks	<b>"Network Layer:</b> IP Header, IPv4 Protocol, ICMP Protocol, Routing Algorithm, Hub, Repeater, Switch, Router and Gateway, Fragmentation"	
TWT 22	Computer Networks	<b>Transport Layer and Application Layer:</b> TCP Header, UDP Header, State Transitions of TCP, Different Timers in TCP, Flow Control Policies, Congestion Control, Hypertext Transfer Protocol, File Transfer Protocol, Simple Mail Transfer Protocol, Domain Name Space Protocol	07 <sup>th</sup> August 2023
TWT 23	Databases	<b>Database Design &amp; ER Model:</b> Introduction Of RDBMS, ER Model Concept & Conversion of ER Model to RDBMS, Finding Number of Candidate key & Super keys	
TWT 24	Databases	<b>FD's &amp; Normalization:</b> Membership set & Equality between FD Sets, Minimal Cover, Properties of Decomposition, Normal Form, Decomposition Into Higher Normal Form	
TWT 25	Operating System	<b>Process Management &amp; CPU Scheduling:</b> Process Concept, CPU Scheduling Algorithms, System Call,Threads	07 <sup>th</sup> August 2023
TWT 26	Operating System	<b>Process Synchronisation:</b> Critical Section Problem, Hardware Solution (TSL, etc ), Software Solution, OS Based Solution, Classical IPC problems, Concurrency Mechanism	

Test No	Subject	Test Syllabus (Topic Names)	Test Activation Date
TWT 27	Computer Organization and Architecture	<b>"Machine Instruction &amp; Addressing Modes:</b> Basics of COA Registers and its Types, Types of Buses, Instruction Set Architecture, Addressing Modes"	07 <sup>th</sup> August 2023
TWT 28	Computer Organization and Architecture	<b>ALU &amp; Control Unit and I/O Interface:</b> Micro-operation & micro program, ALU Data Path, Control Unit design, Hardwired Control, Microprogrammed Control, IO Organization, Modes of Data Transfer, Secondary memory	
TWT 29	Discrete Mathematics	<b>"Graph Theory:</b> Basics of Graphs, Degree Sequence, Types of Graphs Connectivity, Graph Number, Planarity"	
TWT 30	Discrete Mathematics	Propositional Logic: Propositional Logic, Logical Equivalence, Inference Rule, Predicate Logic, Quantifier	
TWT 31	Engineering Mathematics	Linear Algebra	
TWT 32	Engineering Mathematics	Calculus	
TWT 33	General Aptitude	Quantitative Aptitude	
TWT 34	General Aptitude	Analytical Aptitude	
TWT 35	Databases	<b>"Transaction &amp; Concurrency Control:</b> Serializable Schedule(Conflict & View), Finding Number of Serializable Schedule, Recoverable Schedule, Lock Based/Time Stamp Protocol"	
TWT 36	Databases	Relational Algebra, Structured Query Language(SQL) & TRC	
TWT 37	Databases	<b>File Organization and Indexing:</b> File Organization and Indexing, Multi level Indexing, B Tree & B+ Tree	12 <sup>th</sup> August 2023
TWT 38	Operating System	<b>Deadlock and File System &amp; Disk Management:</b> Deadlock Characterization, Deadlock Handling, Resource Allocation Graph, File system, Disk Architecture, Disk Scheduling Algorithm, File Allocation Methods	
TWT 39	Operating System	<b>Memory Management and Virtual Memory:</b> Memory management Techniques, Paging, Virtual Memory, Page replacement Techniques	
TWT 40	Computer Organization and Architecture	<b>Instruction Pipelining:</b> RISC & CISC, Basics of Pipelining Performance Evaluation of Pipeline, Pipelining Dependencies"	
TWT 41	Computer Organization and Architecture	Memory Organization: Memory Hierarchy Design , Cache memory & Cache organization, Mapping Techniques, Cache Replacement Techniques, Cache Updation Policy, Main memory	17 <sup>th</sup> August 2023

Test No	Subject	Test Syllabus (Topic Names)	Test Activation Date
TWT 42	Discrete Mathematics	<b>Sets, Relations &amp; Functions:</b> Sets, Relations & Functions, Lattice, Monoids and Groups	17 <sup>th</sup> August 2023
TWT 43	Discrete Mathematics	Combinatorics: Permutations, Combinations, Binomial Identities, Generating Function, Recurrence Relation	
TWT 44	Engineering Mathematics	Probability and Statistics	
TWT 45	General Aptitude	Spatial Aptitude	
TWT 46	General Aptitude	Verbal Aptitude	

## SUBJECT WISE TESTS

**Total Questions: 26 | Marks: 40  
Test Duration: 75 Min**

Test No	Subject	Test Activation Date
SWT 1	Theory of Computation	22 <sup>nd</sup> Aug-2023
SWT 2	Digital Logic	
SWT 3	Programming and Data Structures	
SWT 4	Computer Networks	
SWT 5	Operating System	27 <sup>th</sup> Aug-2023
SWT 6	Databases	
SWT 7	Algorithm	
SWT 8	Discrete Mathematics	
SWT 9	Engineering Mathematics	1 <sup>st</sup> Sep-2023
SWT 10	General Aptitude	
SWT 11	Compiler Design	
SWT 12	Computer Organization and Architecture	
SWT 13	Theory of Computation	6 <sup>th</sup> Sep-2023
SWT 14	Digital Logic	
SWT 15	Programming and Data Structures	
SWT 16	Computer Networks	

Test No	Subject	Test Activation Date
SWT 17	Operating System	11 <sup>th</sup> Sep-2023
SWT 18	Databases	
SWT 19	Algorithm	
SWT 20	Discrete Mathematics	
SWT 21	Engineering Mathematics	16 <sup>th</sup> Sep-2023
SWT 22	General Aptitude	
SWT 23	Compiler Design	
SWT 24	Computer Organization and Architecture	

## MULTIPLE SUBJECT TESTS

Total Questions: 39 | Marks: 60

Test Duration : 110 Min

Test No	Subject	Test Activation Date
MST 1	Theory of Computation + Compiler Design + Digital Logic	24 <sup>th</sup> Sep-2023
MST 2	Programming and Data Structures + Algorithms + Computer Networks	1 <sup>st</sup> Oct-2023
MST 3	Databases + Computer Organization and Architecture + Operating System	8 <sup>th</sup> Oct-2023
MST 4	Discrete Mathematics + Engineering Mathematics + General Aptitude	15 <sup>th</sup> Oct-2023

## GATE Before GATE

Total Questions: 65 | Marks: 100

Test Duration : 180 Min

Test No	Subject	Test Activation Date
GBG 1	All Subjects	22 <sup>nd</sup> Oct-2023
GBG 2	All Subjects	29 <sup>th</sup> Oct-2023
GBG 3	All Subjects	5 <sup>th</sup> Nov-2023
GBG 4	All Subjects	12 <sup>th</sup> Nov-2023
GBG 5	All Subjects	19 <sup>th</sup> Nov-2023
GBG 6	All Subjects	26 <sup>th</sup> Nov-2023

Test No	Subject	Test Activation Date
GBG 7	All Subjects	3 <sup>rd</sup> Dec-2023
GBG 8	All Subjects	10 <sup>th</sup> Dec-2023
GBG 9	All Subjects	17 <sup>th</sup> Dec-2023
GBG 10	All Subjects	24 <sup>th</sup> Dec-2023
GBG 11	All Subjects	31 <sup>st</sup> Dec-2023
GBG 12	All Subjects	7 <sup>th</sup> Jan-2024
"GBG 13 (Confidence Booster)"	All Subjects	14 <sup>th</sup> Jan-2024
"GBG 14 (Confidence Booster)"	All Subjects	21 <sup>st</sup> Jan-2024

## GATE PYQs

Total Questions: 65 | Marks: 100  
Test Duration : 180 Min

Test No	GATE Paper Year	Test Activation Date
GATE PYQ Test 1	GATE 2016 SET (I)	1 <sup>st</sup> Nov-2023
GATE PYQ Test 2	GATE 2016 SET (II)	
GATE PYQ Test 3	GATE 2017 SET (I)	
GATE PYQ Test 4	GATE 2017 SET (II)	
GATE PYQ Test 5	GATE 2018	30 <sup>th</sup> Nov-2023
GATE PYQ Test 6	GATE 2019	
GATE PYQ Test 7	GATE 2020	
GATE PYQ Test 8	GATE 2021 SET (I)	
GATE PYQ Test 9	GATE 2021 SET (II)	20 <sup>th</sup> Dec-2023
GATE PYQ Test 10	GATE 2022	
GATE PYQ Test 11	GATE 2023	



## TEST SERIES HIGHLIGHTS



Comprehensive Coverage  
of GATE Syllabus



GATE-like Exam Platform



Versatile Test Series



Regular Schedule



Detailed Performance  
Analysis



GATE PYQ Practice Tests



Comprehensive Text  
Solutions



Recorded Video solution  
by the Faculties