GATE

HOW TO PREPARE FOR CSE

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Graduate Aptitude Test in Engineering

GATE

Foreword

Aspirants wishing to succeed in GATE must start their preparation efforts in a serious manner. Computer Science Engineering is one of the top five popular branches in GATE with the applicants for it being one of the highest. As many as 1,31,803 candidates appeared for CSE in GATE 2016. This is one of the branches in GATE which is held in multiple sessions owing to the large number of applicants.

To aid and propel preparation efforts of the GATE CSE candidates, Careers360 brings preparation guidelines, tips and more compiled from interviews with previous GATE toppers and experts. This e-book is meant to be used as a broad guideline for GATE preparation. We strongly advise students to study the whole prescribed syllabus and not just rely on the topics mentioned in this book.

Success is the sum of small steps repeated day in day out. So study the concepts, strengthen your foundation, practice formulas, solve problems and do this every day till the day of the GATE exam. Success will be yours.

All the Best!

Team Careers360

Introduction to GATE

GATE (Graduate Aptitude Test in Engineering) is the All India examination that is used to screen the applicants from across the country for admissions to the various Post Graduate courses in Engineering in the IITs, IISc Bangalore, NITs, some CFTIs and many private institutes as well as many state universities.

GATE is an entrance test designed to test the comprehensive understanding of the various subjects in Engineering and Technology of the applicants. Candidates can apply to the PG courses like M.Tech/M.E/ Integrated courses like M.Tech-Phd and even M.Des at some IITs on the basis of their GATE 2015 scores. GATE qualified candidates are given preference over other candidates in many state conducted entrance exams.

Salient Features of GATE 2017

- GATE 2017 will be held for 23 papers through online tests to be held on February 4 & 5 , 2017 and February 11 & 12, 2017.

- GATE 2017 Admit Card has to be downloaded through GOAPS from January 5, 2017. Candidates whose application has been successfully accepted can download it.

- The GATE 2017 Papers will be online and candidates have to use the virtual calculator which is now a part of the online test system for their calculations.

- The GATE 2017 Result will be again displayed through GOAPS on March 27, 2017.

- The GATE 2017 Score Card can be downloaded only in March 2017. Only candidates who have qualified in GATE 2017 will be able to download the GATE 2017 Score Card.

- GATE 2017 Score will be valid for a period of three years from the date of the declaration of the GATE 2017 Result- March 27, 2017. It may be noted that this validity is only for the M.Tech admissions and not for PSU recruitment.

GATE exam pattern

General details about the GATE exam pattern

The GATE exam consists of a single paper of 3-hour duration that contains 65 questions carrying a maximum of 100 marks.

The GATE question paper consists of both multiple choice questions (MCQ) and numerical answer type (NAT) questions.

The tests for all the papers are carried out in an Online Computer Based Test (CBT) mode where the candidates are shown the questions in a random sequence on a computer screen.

Candidates are required to select the answer (for MCQ type) and enter the answer for numerical answer type question using a mouse on a virtual keyboard (keyboard of the computer is disabled).

Each candidate is provided with a scribble pad for rough work. The scribble pad has to be returned after the examination.

At the end of 3-hour window, the computer automatically closes the screen from further actions.

Types of questions in GATE: GATE contains questions of two different types.

Multiple Choice Questions (MCQ):
- These carry 1 or 2 marks each in all papers and sections.
- These questions are objective in nature, and each has a choice of four answers, out of which the candidate has to mark the correct answer(s).

Numerical Answer Questions:
- These carry 1 or 2 marks each in all papers and sections.
- For these questions, the answer is a real number, to be entered by the candidate using the virtual keypad.
- No choices are shown for this type of questions.

GATE Marking Scheme:
- CS question paper has 65 questions for 100 marks in total.
- It has a compulsory section on General Aptitude with 10 questions carrying a total of 15 marks.
- The question paper has a compulsory Engineering Mathematics section that carries around 15% of the total marks. The remaining 70% of the total marks is devoted to the subject of the paper.
- Negative Marking is only for the multiple choice questions (MCQs). For 1-mark multiple choice questions, 1/3 mark is deducted for a wrong answer. Likewise, for 2-mark multiple choice questions, 2/3 mark is deducted for a wrong answer.
- There is no negative marking for a wrong answer in numerical answer type questions.
- CS question paper contains 25 questions carrying 1-mark each (subtotal 25 marks) and 30 questions carrying 2-marks each (sub-total 60 marks).

## DESIGN OF QUESTIONS IN GATE CS PAPER:
The questions in the paper may be designed to test the following abilities:

Recall: These questions are based on facts, principles, formulas or laws of the discipline of the paper and test the candidates on their memory or deductions skills.

Comprehension: These questions test candidate's understanding of the basics concepts of their field and require them to derive the answers by drawing simple conclusions from fundamental ideas.

Application: In these questions, candidates are expected to apply their knowledge either through computation or by logical reasoning.

Analysis and Synthesis: For these questions, candidates are presented with data, diagrams, and images. They must analyze these and answer the questions.
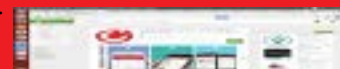
Computer Science Engineering Syllabus

GATE Syllabus for Computer Science and Information Technology is divided into following ten sections-

Section 1: Engineering Mathematics

Section 2: Digital Logic

Section 3: Computer Organization and Architecture

Section 4: Programming and Data Structures

Section 5: Algorithms

Section 6: Theory of Computation

Section 7: Compiler Design

Section 8: Operating System

Section 9: Databases

Section 10: Computer Networks

Topics and Books For GATE Computer Science Engineering:

GATE Syllabus	Book Name	Author Name
Engineering Mathematics	Discrete Mathematics and Its Applications Higher Engineering mathematics Advanced Engineering Mathematics	Kenneth Rosen B.S. Grewal Erwin Kreyszig
Digital Logic	Digital Design Digital Electronics	Morris Mano S. Salivahanan & S. Arivazhagan
Programming	The C Programming language	Dennis Richie
Data Structures and Algorithms	Introduction to Algorithms Data Structures & Algorithms	Cormen R.S. Salaria NPTEL Lecture by P. P. Chakroborty
Theory of Computation	An Introduction to Formal Languages and Automata	Peter Linz NPTEL lectures by Kamala Krithivasan
Computer Networks	Computer Networking: A Top-Down Approach Data Communications and Networking	Kurose & Ross Behrouz A. Forouzan
Computer Organization and Architecture	Computer Organization and Embedded systems	Carl Hamacher
Operating System	Operating System Concepts	Galvin
Databases	Database System Concepts Normalization and indexing	Henry. F. Korth Shamkant B. Navathe
Compiler Design	Compilers: Principles, Techniques and Tools	Aho& Ullman
Software Engineering	Software Engineering: A Practitioner's Approach	Pressman
Web technologies	w3schools (html/xml tutorial)	Website Link

Important Tips

- Nobody knows better than you about what works for you. So chart your own preparation plan and schedule.
- Make it mandatory to prepare a handbook containing formulas that need to be learnt. This handbook is useful during the last days before the exam as a quick reckoner for calculations.
- Also make it a habit of preparing short notes on all topics that you have been studying. These will be useful to revise faster during the last days of the exam.
- Make sure you also give equal weightage to Mathematics and General Aptitude. Each constitutes 15% of total marks in the question paper. These sections are scoring and go well to add up to your overall score in GATE exam.

Computer Science Engineering topper interviews

GATE 2015 Topper Interview: Ravi Shankar Mishra AIR 1 in Computer Science Engineering!

By Prabha Dhavala   Updated On: 01 Apr 2015 11:10 AM IST

Ravi Shankar Mishra AIR 1 in Computer Science Engineering

GATE 2015 Topper - Suhit Sinha AIR 10 in Computer Science Engineering

By Prabha Dhavala   Updated On: 12 Oct 2015 06:23 PM IST

Suhit Sinha AIR 10 in Computer Science Engineering

Useful links for GATE

GATE 2017

What's new in GATE 2017
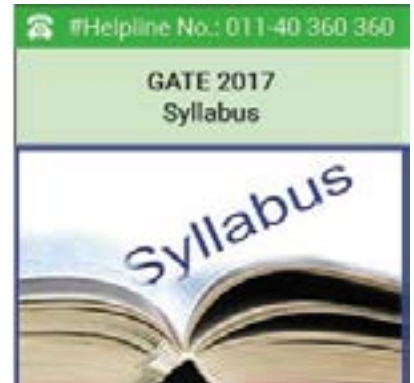
GATE 2017 Syllabus

GATE 2017 Exam Pattern

GATE 2017 Syllabus for Computer Science and Information Technology

GATE 2017 Sample Papers
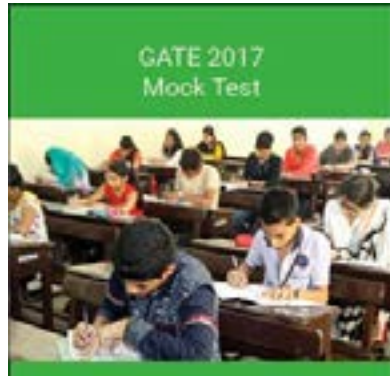
GATE 2017 Mock Test

PSU Recruitment through GATE 2017

GATE 2017 Official Website
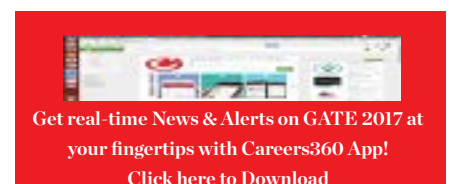
GATE 2015 CS Paper 2 Analysis by GATE Forum

GATE 2014 Analysis for CS (Computer Science)