

Career Opportunities after Engineering

Graduate Aptitude Test in Engineering (GATE)

Graduate Aptitude Test in Engineering (GATE) is a national-level examination that primarily tests the comprehensive understanding of various undergraduate subjects **in Engineering/ Technology/ Architecture/ Science/ Commerce/ Arts/ Humanities** **for admission to various Master's and Doctoral Programs** and **Recruitment by some Public Sector Undertakings**.

Purpose:

- **Postgraduate Admissions:** GATE scores are used for admission to various postgraduate programs in engineering and related fields at prestigious institutions including IIT's and IISC.
- **PSU Recruitment:** Many public sector companies like BHEL, SAIL, NTPC, ONGC utilize GATE scores to recruit engineering professionals.
- **Research Opportunities:** GATE scores are also relevant for those seeking research opportunities in India.

Key Features:

- **Computer-based Test (CBT):** GATE is a computer-based examination.
- **Multiple-choice and Numerical Answer Type Questions:** The exam includes both multiple-choice questions (MCQs) and numerical answer type (NAT) questions.
- **Duration:** The exam is typically 3 hours long.
- **Scoring:** The exam is out of 100 marks, with a mix of one and two-mark questions.
- **Negative Marking:** There is negative marking for incorrect answers on MCQs.
- **Total Marks:** 100
- **Eligibility:** Varies based on the specific program and institute but generally requires a bachelor's degree in engineering / third year appearing in a related field.
- **Benefits:** Provides opportunities for higher education, research, and employment in various public and private sector organizations.
- **Validity:** GATE scores are valid for three years.

ADMISSION:

Valid GATE score can be used for seeking admission to:

- **Master's programs** and **direct Doctoral programs** in Engineering/ Technology/ Architecture/ Science/ Commerce/ Arts/ Humanities; and

- **Doctoral programs** in relevant branches of Engineering/ Technology/ Architecture/ Science/ Commerce/ Arts/ Humanities, in the institutions supported by the MoE and other Government agencies.

FINANCIAL ASSISTANCE:

Qualifying GATE score can be used for seeking financial assistance towards:

- Master's programs and direct Doctoral programs in Engineering/ Technology/ Architecture/ Science/ Commerce/ Arts/ Humanities; and
- Doctoral programs in relevant branches of Engineering/ Technology/ Architecture/ Science/ Commerce/ Arts/ Humanities, in the institutions supported by the MoE and other Government agencies.

Financial Assistance given to **M. Tech students is Rs. 12,400 per month and generally paid for 22 months.**

Financial Assistance given for Ph.D. programs (Direct Ph.D. after B.E./B.Tech/M.Sc equivalent with a valid GATE score) **is Rs. 37,000 per month for the first two years and Rs. 42,000 per month from the third to the fifth year.**

RECRUITMENT:

Many Public Sector Undertakings (PSUs) have been using the GATE score in their recruitment process. A list (not exhaustive) of such PSUs is:

Airports Authority of India (**AAI**), Bharat Heavy Electricals Limited (**BHEL**), Bharat Sanchar Nigam Limited (**BSNL**), Coal India Limited (**CIL**), Centre for Railway Information Systems (**CRIS**), Chenab Valley Power Projects Limited (**CVPPL**), Damodar Valley Corporation (**DVC**), Electronics Corporation of India Limited (**ECIL**), Engineers India Limited (**EIL**), Gas Authority of India Limited (**GAIL**), Hindustan Aeronautics Limited (**HAL**), Indian Oil Corporation Limited (**IOCL**), Mazagaon Dock Shipbuilders Limited (**MDSL**), National Aluminium Company Limited (**NALCO**), National Highways Authority of India (**NHAI**), NLC India Limited (**NLCIL**), National Mineral Development Corporation (**NMDC**), Nuclear Power Corporation of India Limited (**NPCIL**), National Thermal Power Corporation (**NTPC**), Odisha Power Generation Corporation Limited (**OPGC**), Oil and Natural Gas Corporation (**ONGC**), Power Grid Corporation of India (**POWERGRID**), Grid Controller of India Limited (**GRID-INDIA**)(previously known as Power System Operation Corporation Limited (POSOCO)), Rashtriya Ispat Nigam Limited (**RINL**), Steel Authority of India Limited (**SAIL**), etc.

SYLLABUS:

Sr. No	Branch / Stream	Syllabus URL
1	Civil Engineering (CE)	https://gate2025.iitr.ac.in/doc/2025/GATE%20_CE_2025_Syllabus.pdf

2	Computer Science and Engineering (CS)	https://gate2025.iitr.ac.in/doc/2025/GATE%20_CS_2025_Syllabus.pdf
3	Data Science and Artificial Intelligence (DA)	https://gate2025.iitr.ac.in/doc/2025/GATE%20_DA_2025_Syllabus.pdf
4	Electronics and Communication Engineering (EC)	https://gate2025.iitr.ac.in/doc/2025/GATE%20_EC_2025_Syllabus.pdf
5	Mechanical Engineering (ME)	https://gate2025.iitr.ac.in/doc/2025/GATE%20_ME_2025_Syllabus.pdf

Question Paper Pattern:

Particular	Details
Mode of Examination	The test papers will be in English. Computer Based Test (CBT) [will be conducted at select centres in select cities].
Duration	3 Hours
Sections	General Aptitude (GA) + Candidate's Selected Subjects (Branch Specific)
Type of Questions	Candidate's Selected Subject(s) (Branch Specific) (a) Multiple Choice Questions (MCQ) (b) Multiple Select Questions (MSQ) and/or (c) Numerical Answer Type (NAT) Questions
Abilities Tested	(a) Recall (b) Comprehension (c) Application (d) Analysis & Synthesis
Distribution of Marks in all Papers EXCEPT papers DA	General Aptitude: 15 marks Engineering Mathematics: 13 marks Subject Questions: 72 marks Total: 100 marks
Distribution of Marks in papers DA	General Aptitude: 15 marks Subject Questions: 85 marks Total: 100 marks
Marking Scheme	Questions carry 1 mark or 2 marks

Negative Marking	<ul style="list-style-type: none"> For a wrong answer chosen in an MCQ, there will be negative marking. For a 1-mark MCQ, 1/3 mark will be deducted for a wrong answer. For a 2-mark MCQ, 2/3 mark will be deducted for a wrong answer. <p>There is no negative marking for wrong answer(s) to MSQ or NAT questions.</p> <p>There is no partial marking in MSQ.</p>
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Marking Scheme:

Paper Code	General Aptitude (GA) Marks	Compulsory Section	Subject Marks	Total Marks	Total Time* (Minutes)
Civil Engineering (CE)*	15	-----	85	100	180
Computer Science and Engineering (CS)*	15	-----	85	100	180
Data Science and Artificial Intelligence (DA)	15	-----	85	100	180
Electronics and Communication Engineering (EC)*	15	-----	85	100	180
Mechanical Engineering (ME)*	15	-----	85	100	180

***: Subject marks in these papers include questions on Engineering Mathematics (13 marks), which are paper-specific.**