Graduate Aptitude Test in Engineering

GATE 2016

Organizing Institute

Indian Institute of Science

Information
Brochure

Contents

New in GATE 2016	An online virtual calculator will be available to examinees at the time of examination. No physical calculator will be allowed. The online virtual calculator will be put on GATE 2016 website for practice before the examination.
New in GATE 2016	After completion of GATE 2016 examination, all answer keys will be made available for dispute within a short time. Every answer key can be challenged. A nominal fee will be levied to prevent frivolous challenges.
New in GATE 2016	A new paper Petroleum Engineering (PE) is introduced in GATE 2016. With this, the total number of papers is 23.
Syllabus	The entire syllabus is available at the GATE 2016 website http://gate.iisc.ernet.in

❖ 1. Introduction

Graduate Aptitude Test in Engineering (GATE) is an all India examination that primarily tests the comprehensive understanding of the candidates in various undergraduate subjects in Engineering/Technology/Architecture and post-graduate level subjects in Science. The GATE score of a candidate reflects a relative performance level in a particular subject in the examination across several years. The score is used for admissions to post-graduate programs (e.g., M. E., M. Tech, direct Ph.D.) in centrally funded Indian institutes of higher education (i.e., institutes which are provided with financial assistance by MHRD and other Government agencies). The score is also used by some Public and Private Sector Undertakings for employment processes. Direct recruitment to Group A level posts i.e., Senior Field Office (SFO Tele), Senior Research Officer (SRO) (Crypto) and SRO(S&T) in Cabinet Secretariat is now being done on the basis of GATE scores.

The information in this brochure is mainly categorized into **Pre-Examination** (Eligibility, Application submission, Examination Centers etc.), **Examination** (Syllabus, Pattern, Marks/Score, Model Question Papers etc.) & **Post-Examination** (Answers, Results, Scorecard etc.) sections.

❖ 2. About GATE

The Indian Institute of Science (IISc) and seven Indian Institutes of Technology (IITs at Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) jointly administer the conduct of GATE. The operations related to GATE in each of the 8 zones are managed by a zonal GATE Office at the IITs or IISc. The Organizing Institute (OI) is responsible for the end-to-end process and coordination amongst the administering Institutes. The Organizing Institute for **GATE 2016** is **Indian Institute of Science.**

➤ 2.1. Financial Assistance

A valid GATE score is essential for obtaining financial assistance during Master's programs and direct Doctoral programs in Engineering/Technology/Architecture, and Doctoral programs in relevant branches of Science in Institutes supported by the MHRD or other Government agencies. As per the directives of the MHRD, the following procedure is to be adopted for admission to the post-graduate programs (Master's and Doctoral) with MHRD scholarship/assistantship. Depending upon the norms adopted by a specific institute or department of the Institute, a candidate may be admitted directly into a course based on his/her performance in GATE only **or** based on his/her performance in GATE **and** an admission test/interview conducted by the department to which he/she has applied **and/or** the candidate's

academic record. If the candidate is to be selected through test/interview for post-graduate programs, a minimum of 70% weightage will be given to the performance in GATE and the remaining 30% weightage will be given to the candidate's performance in test/interview and/or academic record, as per MHRD guidelines. The admitting institutes could however prescribe a minimum passing percentage of marks in the test/interview. Some colleges/institutes specify GATE qualification as the mandatory requirement even for admission without MHRD scholarship/assistantship.

To avail of the financial assistance (scholarship), the candidate must first secure admission to a program in these Institutes, by a procedure that could vary from institute to institute. Qualification in GATE is also a minimum requirement to apply for various fellowships awarded by many Government organizations. Candidates are advised to seek complete details of admission procedures and availability of MHRD scholarship/assistantship from the concerned admitting institution. The criteria for postgraduate admission with scholarship/assistantship could be different for different institutions. The management of the post-graduate scholarship/assistantship is also the responsibility of the admitting institution. Similarly, reservation of seats under different categories is as per the policies and norms prevailing at the admitting institution and Government of India rules. *GATE offices will usually not entertain any enquiry about admission, reservation of seats and/or award of scholarship/assistantship*.

➢ 2.2 Employment

Several public sector undertakings, have, in the past, used GATE scores for screening. A select few such organizations are: Indian Oil Corporation Limited, National Thermal Power Corporation, Oil and Natural Gas Corporation and Power Grid India.

Note: GATE administration is not responsible for employment opportunities. The qualified candidates must check newspapers and other reliable sources for any such information.

➢ 2.3 Administration

GATE is administered and conducted jointly by the Indian Institute of Science (IISc) and seven Indian Institutes of Technology (IITs) on behalf of the National Coordination Board (NCB)-GATE, Department of Higher Education, Ministry of Human Resource Development (MHRD), Government of India. The GATE committee, which comprises of representatives from these administering institutes, is the sole authority for regulating the examination and declaring the results.

GATE is conducted through the collaboration of eight zones. The zones and the corresponding administrative institutes are:

Zone-1: **Indian Institute of Science**

Zone-2: **Indian Institute of Technology Bombay**

Zone-3: **Indian Institute of Technology Delhi**

Zone-4:   **Indian Institute of Technology Guwahati**

Zone-5:   **Indian Institute of Technology Kanpur**

Zone-6:   **Indian Institute of Technology Kharagpur**

Zone-7:   **Indian Institute of Technology Madras**

Zone-8:   **Indian Institute of Technology Roorkee**

The overall co-ordination and responsibility for conducting **GATE 2016** lies with **Indian Institute of Science** which is designated as the **Organizing Institute for GATE 2016**.

❖ 3. Basic Features of GATE 2016

1. Examinations for **all the 23 papers** will be conducted by an **ONLINE** Computer Based Test (CBT). The online examination paper will contain some questions for which numerical answers must be keyed in by the candidate using the virtual keypad. Rest of the questions shall be of Multiple Choice Question (MCQ) type.

2. Biometric information (Photograph and Fingerprints) for randomly selected candidates may be captured before the start of the examination.

3. GATE 2016 examinations will be held during forenoon and afternoon sessions on weekends (Saturday and Sunday) between 30th January 2016 and 7th February 2016. Examination for some of the papers in GATE 2016 will be held in multiple sessions. Exact details regarding complete examination schedule will be notified at a later date.

4. For GATE 2016 the entire process of filling up of application form, uploading of certificates/documents etc., will be online and the candidates should **not** send any hard copy of their application form/documents etc., to IISc or any of the IIT's zonal GATE office.

5. The payment of application fees would be through electronic mode online as well as through payment at bank counters using e-challan.

6. The admit cards for GATE 2016 would be available through the online process only. Candidates can download their admit card from GATE 2016 website. No printed copy of admit cards will be posted to the candidates.

➤ 3.1 General Information on GATE 2016

1. Application Process: For GATE 2016, all information related to the candidates will be available in a single GATE Online Application Processing System (GOAPS). Candidates have to register and fill the application via **ONLINE mode ONLY**. The photograph and signature of the applicant must be uploaded during the online application. Please note that all necessary certificates, such as, degree

certificate/certificate from the Principal and the category certificate, if any are also to be uploaded. Please note that **no** application form is **available for sale** anywhere.

2. **Downloadable Admit Card:** Admit cards will **ONLY** be downloadable from the GOAPS website tentatively from 17th December 2015. The candidate has to bring a printed copy of the admit card to the test centre along with at least one original and valid photo identification. The **only** permitted photo identifications are: Driving license, Passport, PAN Card, Voter ID, Aadhaar UID, College ID, Employee identification card, or a notarized affidavit which contains the candidate's Photo, Signature, Date of Birth and Residential Address. The details of this ID proof have to be given while filling the online application.

3. **Numerical Answer Type Questions:** The question paper for GATE 2016 will consist of questions of both multiple-choice type and numerical answer type. For multiple choice type questions, candidates have to choose the answer from the given choices. For numerical answer type questions, candidates have to enter a number as the answer using a virtual keypad.

➢ 3.2 Important Dates Related to GATE 2016

Table 3.1: Important dates related to GATE 2016

GATE Online Application Processing System (GOAPS) Website Opens	Tuesday	1st September 2015 (00:00 Hrs)
Last Date for Submission of Online Application through Website	Thursday	1st October 2015 (23:59 Hrs)
Last Date for Request for Change in the Choice of City	Friday	20th November 2015
Availability of Admit Card on the Online Application Interface for printing	Thursday	17th December 2015
GATE 2016 Online Examination Forenoon: 9.00 AM to 12.00 Noon Afternoon: 2.00 PM to 5.00 PM	Saturday and Sunday	30th and 31st January, and 6th and 7th February, 2016
Announcement of Results on the Online Application Website	Saturday	19th March 2016 (17:00 Hrs)

❖ 4. Pre-Examination Related Information

➢ 4.1 Eligibility for GATE 2016

Before starting the application process, the candidate must ensure that he/she meets the eligibility criteria of GATE 2016 given in Table 4.1.

Table 4.1: Eligibility Criteria for GATE 2016

Qualifying Degree	Qualifying Degree/Examination (Descriptive)	Description of Eligible Candidates	Year of qualification cannot be later than
B.E./B.Tech. / B.Pharm.	Bachelor's degree holders in Engineering/ Technology (4 years after 10+2 or 3 years after B.Sc./Diploma in Engineering/ Technology)	Currently in the final year or already completed	2016
B. Arch.	Bachelor's degree holders of Architecture (Five years course)	Currently in the final year or already completed	2016
B.Sc. (Research)/ B.S.	Bachelor's degree in Science (Post-Diploma/ 4 years after 10+2)	Currently in the 4th year or already completed	2016
M. Sc./ M.A./MCA or equivalent	Master's degree in any branch of Science/Mathematics / Statistics / Computer Applications or equivalent	Currently in the final year or already completed	2016
Int. M.E/ M.Tech (Post-B.Sc.)	Post-BSc Integrated Master's degree programs in Engineering / Technology (Four year program)	Currently in the 2nd/3rd/4th year or already completed	2018
Int. M.E./ M.Tech or Dual Degree(after Diploma or 10+2)	Integrated Master's degree program or Dual Degree program in Engineering / Technology (Five year program)	Currently in the 4th/5th year or already completed	2017
Int. M.Sc/ Int. B.S.- M.S.	Integrated M.Sc. or Five year integrated B.S.-M.S. program	Currently in the final year or already completed	2016
Professional Society Examinations (equivalent to B.E./B.Tech. /B.Arch.)	B.E./B.Tech./B.Arch. equivalent examinations, of Professional Societies, recognized by MHRD/UPSC/AICTE (e.g., AMIE by Institution of Engineers-India, AMICE by the Institute of Civil Engineers-India)	Completed section A or equivalent of such professional courses	NA

In case a candidate has passed one of the qualifying examinations as mentioned above in 2015 or earlier, the candidate has to submit the degree certificate / provisional certificate / course completion certificate / professional ceritificate / membership certificate issued by the society or institute. In case, the candidate is expected to complete to complete one of the qualifying criteria in 2016 or later as mentioned above, he/she has to submit a certificate from Principal or a copy of marks card for section A of AMIE.

Certificate from Principal

Candidates who have to submit a certificate from their college Principal have to obtain one from his/her institution beforehand and upload the same during the online submission of the application form.

Candidates, who have appeared in the final semester/year exam in 2015, but with a backlog (arrears/failed subjects) in any of the papers in their qualifying degree should

upload a copy of any one of the mark sheets of the final year,

OR

obtain a declaration from their Principal along with the signature and seal beforehand and upload the same during the online submission of the application form.

➢ 4.2 GATE Papers

GATE 2016 will be conducted in the subjects (also referred to as "papers") shown in Table 4.2. Candidates must familiarize with the paper code for the paper of their choice, as this knowledge will be required at the time of application form submission and appearing for the examination. A candidate is allowed to appear in **ONLY ONE** paper.

Since a candidate is allowed to appear in **ONLY ONE** of the 23 papers for which GATE 2016 examination is being held, the candidate has to make the choice of the paper he/she wishes to write carefully. Table 4.2 gives the list of GATE papers and paper codes for GATE 2016.

Table 4.2: GATE Papers and the Paper Codes for GATE 2016

GATE Paper	Code	GATE Paper	Code
Aerospace Engineering	AE	Geology and Geophysics	GG
Agricultural Engineering	AG	Instrumentation Engineering	IN
Architecture and Planning	AR	Mathematics	MA
Biotechnology	BT	Mechanical Engineering	ME
Civil Engineering	CE	Mining Engineering	MN
Chemical Engineering	CH	Metallurgical Engineering	MT
Computer Science and Information Technology	CS	Petroleum Engineering	PE
Chemistry	CY	Physics	PH
Electronics and Communication Engineering	EC	Production and Industrial Engineering	PI
Electrical Engineering	EE	Textile Engineering and Fibre Science	TF
Ecology and Evolution	EY	Engineering Sciences	XE*
		Life Sciences	XL**

*XE Paper Sections	Code	**XL Paper Sections	Code
Engineering Mathematics (Compulsory)	A	Chemistry (Compulsory)	H
Fluid Mechanics	B	Biochemistry	I
Materials Science	C	Botany	J
Solid Mechanics	D	Microbiology	K
Thermodynamics	E	Zoology	L
Polymer Science and Engineering	F	Food Technology	M
Food Technology	G		

➢ 4.3 Zone-wise List of Cities in which GATE 2016 will be Held

Choice of Examination City: There are two primary choices and one secondary choice. If you choose a particular city as your first choice, then the corresponding zone to which this city belongs will appear, and you will be able to choose another city as your second choice only from this zone. These choices will be your primary choices in a specific zone. However, a third choice will be there in GATE 2016, which is the secondary choice. The list of third choice cities will be as specified by each zone and this will be used only when the cities of primary choice of a candidate are not available. However, because of operational constraints, the GATE committee reserves the right to add a new city or remove an existing one, and allot a city that may not be any of the choices of a candidate.

Table 4.3 gives the tentative list of the cities (zone-wise) in which GATE 2016 will be held. Also shown in the table is the Zonal Offices (one of the IITs or IISc).

Table 4.3: Zone-wise examination city list for GATE 2016

Zone No.	Zonal GATE Office	Tentative List of Examination Cities*
1	IISc Bangalore Benguluru - 560 012 Website: http://gate.iisc.ernet.in/	Alappuzha, Aluva, Anantapur, Attingal, Bagalkot, Bangalore, Bellary, Belgaum, Bidar, Chengannur, Davengere, Gulbarga, Hassan, Hubli, Idukki, Kannur, Kanjirappally, Kasaragod, Kolar, Kollam, Kothamangalam, Kottayam, Kozhikode, Kurnool, Malappuram, Mangalore, Manipal, Muvattupuzha, Mysore, Nedumangad, Pala, Palakkad, Payyanur, Port Blair, Punalur, Shimoga, Thrissur, Tumkur and Vadakara
2	IIT Bombay, Powai, Mumbai - 400 076 Website: http://www.gate.iitb.ac.in/	Ahmedabad, Ahmednagar, Amravati, Anand, Aurangabad, Bhavnagar, Bhuj, Gandhinagar, Goa, Hyderabad, Jalgaon, Kolhapur, Mehsana, Mumbai, Nagpur, Nanded, Nashik, Navi Mumbai, Pune, Rajkot, Ratnagiri, Sangli, Satara, Secunderabad, Solapur, Surat, Thane and Vadodara
3	IIT Delhi, Hauz Khas, New Delhi – 110016 Website: http://gate.iitd.ac.in/	Ajmer, Alwar, Bahadurgarh, Bikaner, New Delhi, Delhi-NCR, Faridabad, Gurgaon, Hisar-Rohtak, Indore, Jammu, Jaipur, Jodhpur, Karnal, Kota, Mathura, Palwal, Sikar, Udaipur-Chittorgarh and Ujjain
4	IIT Guwahati Guwahati – 781039 Website: http://www.iitg.ernet.in/gate/	Agartala, Asansol-Durgapur, Dhanbad, Gangtok, Guwahati, Imphal, Jorhat, Kalyani, Patna, Silchar, Siliguri, Shillong and Tezpur

Zone No.	Zonal GATE Office	Tentative List of Examination Cities*
5	IIT Kanpur Kanpur – 208016 Website: http://gate.iitk.ac.in/	Agra, Aligarh, Allahabad, Bareilly, Bhopal, Gwalior, Jabalpur, Kanpur, Lucknow and Varanasi
6	IIT Kharagpur Kharagpur – 721302 Website: http://gate.iitkgp.ac.in/	Balasore, Berhampur (Odisha), Bhilai, Bhimavaram, Bhubaneswar, Bilaspur (CG), Cuttack, Eluru, Hooghly, Jamshedpur, Kakinada, Kharagpur, Kolkata, Raipur, Rajahmundry, Ranchi, Rourkela, Sambalpur, Tadepalligudem, Vijayawada, Visakhapatnam and Vizianagaram
7	IIT Madras Chennai – 600036 Website: http://gate.iitm.ac.in/	Angamaly , Bapatla, Chennai, Chittoor, Coimbatore, Cuddalore, Dindigul, Ernakulam, Erode, Gudur, Guntur, Kadapa, Kanyakumari, Karimnagar, Karur, Khammam, Madurai, Nagercoil, Nalgonda, Namakkal, Nellore, Ongole, Puducherry (Pondicherry), Salem, Thanjavur, Thiruchengode, Thiruvannamalai, Thiruvananthapuram, Tiruchirapalli, Tirunelveli, Tirupati, Tuticorin, Vellore, Villupuram, Virudhunagar and Warangal
8	IIT Roorkee Roorkee – 247667 Website: http://www.iitr.ac.in/gate/	Ambala, Amritsar, Bathinda, Chandigarh-Mohali-Fatehgarh Sahib, Dehradun, Ghaziabad, Haldwani-Bhimtal, Hamirpur (HP)-Una, Jalandhar-Phagwara, Kurukshetra, Ludhiana-Moga, Meerut, Moradabad, Noida, Panchkula, Panipat, Pathankot, Patiala-Sangrur, Roorkee-Muzaffarnagar, Saharanpur, Sirmaur, Solan-Shimla, Sonepat and Yamunanagar

* Please consult GATE 2016 website for any change or update on the list of cities.

➢ 4.4 How to Apply

All candidates have to apply **only ONLINE**. Details of the application fee are shown in Table 4.4. **The application fee is non-refundable.**

Table 4.4: Details of application fee for GATE 2016

Women candidates	**Rs. 750**
SC/ST/PwD category candidates	**Rs. 750**
All other candidates	**Rs. 1500**

* PwD means a person who is physically challenged.

For **GATE 2016** payments would have to be made through online by using net banking or debit card or e-challan facilities. **Additional charges** will be applicable as per the rule of the bank from where the money is being transferred. This charge will be specified on the payment portal.

▶ 4.4.1 GATE Online Application Processing System (GOAPS)

An online interface is provided for your interaction with the GATE Office. With this interface you can

1. Apply for the examination online.
2. Upload photograph, signature and other documents like graduation certificate/ certificate from Principal, caste certificate (if applicable) etc.

3. Pay the application fee through net-banking or debit card or e-challan.

4. Check the Status of your application form: Received, Under Scrutiny, Accepted, Defect Status, Status after Rectification, Rejected with Valid Reasons, Admit Card Ready for Download, etc.

5. Contact the zonal GATE Office in case of any queries/problems.

6. Download Admit Card.

7. View your answers, marks and GATE score.

The login to this interface uses your GOAPS password. Keep your password information safe and do not disclose it to anyone.

▶ 4.4.2 Filling in Application Online

1. **GOAPS:** GATE Online Application Processing System (GOAPS website) has the web address

http://appsgate.iisc.ernet.in

It can also be accessed from the website of the respective Zonal GATE Offices or from the website of the GATE 2016 Organizing Institute.

2. **Registration:** A candidate must first register by providing a valid email address, mobile number and a GOAPS password. All communications from the GATE Offices will be sent to this email address (ONLY ONE PERSON CAN REGISTER WITH ONE e-mail ADDRESS). Give your personal mobile number because most of the communications may also be sent via SMS.

   GOAPS Password: The candidate chooses a password during Enrollment at GOAPS. This password must be remembered along with the GOAPS Enrolment ID to login to GOAPS. It is strongly encouraged to choose a password that cannot be guessed easily (it should not be the candidate's name, date of birth, or some easily guessable string of numbers or letters like 12345 or abcd).

3. **GOAPS Enrollment ID:** Upon registration, an email containing the GOAPS Enrolment ID will be sent to the candidate.

4. **Data Requirement for Application Filling:** The following data will be required while filling the form at GOAPS.

   a) Personal information (name, date of birth, your personal mobile number, parents' name, parents' mobile number, etc.).

   b) Address for Communication (including PIN code),

   c) Eligibility degree details

d) College address, PIN code of college,

e) GATE paper, choice of GATE examination cities,

f) High quality image of your photograph conforming to the requirements specified in Section 4.4.4.1, along with what type of photograph is accepted (Section 4.4.4.2).

g) Good quality image of your signature conforming to the requirements specified in Section 4.4.4.3.

h) Scanned copy of Degree Certificate or Certificate from Principal/HODs in pdf format.

i) Scanned copy of Category/PwD Certificate (if applicable) in pdf format.

j) Details of a valid ID Proof that you will carry to the examination hall.

k) Your net-banking details.

5. **Application Filling:** The GOAPS allows you to enter data, "Save" partially filled form, "Logout", and resume filling in by logging in again. The GOAPS portal is self-explanatory and user-friendly. Online help about using GOAPS is also available.

6. Before you make the payment, you will be shown a "Preview" of your application, where you have to carefully check for any errors.

7. Once you press **"Confirm and Final Submit"** button**, no further changes to the application can be made by you.**

8. For online payment follow the instructions given in Section 4.4.3 for payment options.

9. **Problems in Login into GOAPS –**In case of forgotten user ID or password, follow instructions on the GOPAS portal to retrieve them.

◆ **4.4.2.1 Supporting Documents**

◆ **4.4.2.1.1 Eligibility Documents**

Eligibility criteria and necessary supporting documents can be found from the paragraph immediately following Table 4.1.

◆ **4.4.2.1.2 SC/ST/PwD Certificate**

Candidates who are in SC or ST or PwD category have to upload a valid documentary evidence (Appendix A).

◆ **4.4.2.1.3 Certificate from Principal**

Candidates who mention that they are yet to complete their course, will have to upload a certificate from the Principal. This certificate must mandatorily have the signature and seal of the college Principal with current date.

▶ 4.4.3 Application Fee Payment Options

The application fee and various payment options are shown in Table 4.5. **The application fee is non-refundable**. All charges given below are in Indian Rupees.

Table 4.5: Application fee and Payment Options

Candidate Category	Mode	Application Fee in ₹*
Women candidates	Online Net Banking	750
	e-challan	750
SC/ST/PwD candidates	Online Net Banking	750
	e-challan	750
All other candidates	Online Net Banking	1500
	e-challan	1500

* - Bank charges will be applicable as per the norm.

◆ 4.4.3.1 Online Net-banking Payment Details

1. From the GATE Online Application Processing System (GOAPS), you will be redirected to the website of the bank of your choice.
2. The fee can be paid with net-banking or debit card or e-challan.
3. The fee amount and bank charges will be shown to you, and you have to confirm that the payment is for GATE 2016.
4. Once you confirm and the payment is successful, you will be redirected back to the GATE Online Application Website.
5. If you have a difficulty (due to internet connection or power failure, for example), and you are not sure whether your payment has been processed or not, then please login back to GOAPS and check the status of the payment. You can also check the status from your bank.
6. In case the fee amount has been debited from your bank account and GOAPS does not acknowledge any fee payment, then the money will be credited back to your account within seven working days.
7. In such a case, you may initiate a fresh payment using GOAPS, even without waiting for the money to be credited back to your account, so that your application is on time.
8. Once the payment is successful a "Fee Payment Number" will be generated which is unique and **MUST be saved by the candidate** as it will be used in the later stages when he/she fills up the GATE 2016 Application form.

Important: It is essential that the candidate fills in the details in GOAPS without any error as the application **is liable to be rejected if there is any error**. As a checklist the candidate MUST verify that he/she has filled in and uploaded the following as required

a) Personal information (name, date of birth, personal mobile number, parent's name, parent's mobile number etc.).

b) Address for Communication (including PIN code).

c) Eligibility degree details (College address, PIN code of college).

d) The signed application form (with photograph affixed) with Principal's certificate, if that is the proof of your eligibility to appear in GATE 2016 **OR** other eligibility documents required to appear in GATE 2016 (e.g., degree certificate).

e) High quality image of a recent photograph conforming to the requirements specified in Section 4.4.4.1and Section 4.4.4.2.

f) **Category certificate** in case a discounted application fee is claimed.

g) Good quality image of signature conforming to the requirements specified in Section 4.4.4.3.

h) Details of the same valid ID Proof that will be carried to the examination hall.

i) **Fee payment number**.

Note: Before submitting the GATE 2016 Application, please ensure that all the details and all the necessary supporting documents are filled / uploaded and there is NO ERROR. An application once submitted CANNOT be changed / rectified. The current status of an application will be updated after the receipt and scrutiny of the application by the respective zonal GATE Office. This status can be checked anytime by logging into GOAPS.

▶ 4.4.4 Photograph and Signature Requirements
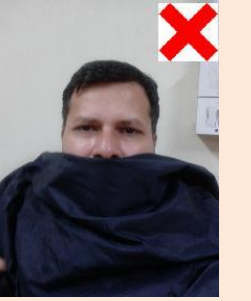
The GATE 2016 Online Application Processing System requires that your photograph and signature be uploaded electronically at the time of submitting your application. Uploading photograph or signature that does not meet the specifications can result in the disqualification of the application without any refund of the application fee.

◆ 4.4.4.1 Photograph Requirements

Please pay attention to upload good quality photograph. Poor quality of the photograph submitted will lead to rejection of your GATE application, without any refund of the application fee. The GATE score card will be printed with the photograph you submit.

1. The photograph must be in color and taken after 1 August 2015 in a professional studio. Photographs taken using a mobile phone and other self-composed portraits may result in rejection of application.
2. Background of the photograph must be white or a very light colour.
3. The face should occupy at least 50% of the area of the photograph with a full-face view looking into the camera directly.
4. The main features of the face must not be covered by hair of the head, any cloth or any shadow. Forehead, eyes, nose and chin should be clearly visible.
5. If you normally wear spectacles, glare on glasses is not acceptable in your photo. While you may wear spectacles for the photo shoot, if glare cannot be avoided, then remove the spectacles.
6. You must not wear spectacles with dark or tinted glasses, only clear glasses are permitted.
7. Ask your photo studio to provide the image in a JPEG format and also on a standard 3.5 cm × 4.5 cm (Width x Height) print.
8. Maximum pixel resolution for JPEG: 480 × 640 (0.3 Mega pixel) (Ask your studio to reduce it to this resolution if it is higher).
9. Minimum pixel resolution for JPEG: 240 × 320.
10. The photograph must match with your appearance on the day of the examination.

Not Acceptable Photograph	Reason for Rejection	Acceptable	
	Photo taken with mobile phone; Distorted face		
	Blue background		
	Facial area is less than 50% of total		
	Not looking straight into camera		
	Cloth covering facial features		

Not Acceptable Photograph	Reason for Rejection	Acceptable	
✘	Shadow on face	✔	
✘	Improper flash or Improper lighting	✔	
✘	Too much glare on spectacles	✔	
✘	Dark/Tinted Spectacles or Sunglasses	✔	
✘	Poor Digital Resolution (100×75)	✔	

18

◆ 4.4.4.3 Signature Specifications

1. Please draw a rectangular box of size 2 cm × 7 cm (Height x Width) on an A4 white paper. Sign with black or dark blue ink pen within this box.
2. Get the digital image of the rectangular box (with your signature inside) scanned by a professional using a scanner. Crop it to the border of the box.
3. Only JPEG image formats will be accepted.
4. The maximum pixel resolution for the image is 160 × 560.
5. The minimum pixel resolution for the image is 80 × 280.
6. Photographs of the signatures taken using mobile phone are not acceptable, and can result in disqualification of the application without any refund of the fee.

➢ 4.5 Admit Card

The Admit Card can only be downloaded from the GATE portal tentatively from 17th December 2015. Admit Cards will NOT be sent by post/email. Bring a print-out of the downloaded Admit Card to the Test Center along with the original and valid photo identification(NO photocopy / scanned copy/NOT expired). **Please note that you have to give details of this ID proof while filling the online application.** Candidates will **NOT** be permitted to take the test, if this original and valid photo identification is not presented. It may be noted that you would have specified one of the following IDs during the online application process: Driving License, Passport, PAN Card, Voter ID, Aadhaar UID, College ID, Employee Identification Card, or a Notarized Affidavit with Photo, Signature, Date of Birth and Residential Address.

❖ 5. Examination Related Information

➢ 5.1 Structure of GATE 2016

For the GATE 2016 examination, a candidate can apply for only one of the 23 papers listed in Table 5.1. The syllabus for each of the papers is given separately. Making a choice of the appropriate paper during GATE application is the responsibility of the candidate. Some guidelines in this respect are suggested below.

The candidate is expected to appear in a paper appropriate to the discipline of his/her qualifying degree. However, the candidate can choose any paper according to his/her admission plan, keeping in mind the eligibility criteria of the institutions in which he/she wishes to seek admission. For more details regarding the admission criteria in any particular institute, the candidate is advised to refer to the website of that institute.

Paper	Code
Aerospace Engineering	AE
Agricultural Engineering	AG
Architecture and Planning	AR
Biotechnology	BT
Civil Engineering	CE
Chemical Engineering	CH
Computer Science and Information Technology	CS
Chemistry	CY
Electronics and Communication Engineering	EC
Electrical Engineering	EE
Ecology and Evolution	EY

Paper	Code
Geology and Geophysics	GG
Instrumentation Engineering	IN
Mathematics	MA
Mechanical Engineering	ME
Mining Engineering	MN
Metallurgical Engineering	MT
Petroleum Engineering	PE
Physics	PH
Production and Industrial Engineering	PI
Textile Engineering and Fibre Science	TF
Engineering Sciences	XE*
Life Sciences	XL**

* XE PAPER SECTIONS	CODE
Engineering Mathematics (Compulsory)	A
Fluid Mechanics	B
Materials Science	C
Solid Mechanics	D
Thermodynamics	E
Polymer Science and Engineering	F
Food Technology	G

**XL PAPER SECTIONS	CODE
Chemistry (Compulsory)	H
Biochemistry	I
Botany	J
Microbiology	K
Zoology	L
Food Technology	M

*XE (Engineering Sciences) and **XL (Life Sciences) papers are of general nature and will comprise of Sections listed in the above table. More detailed explanation is given below.

▶ 5.1.1 General Aptitude Questions

All the papers will have a few questions that test the General Aptitude (Language and Analytical Skills), apart from the core subject of the paper.

▶ 5.1.2 XE Paper

A candidate appearing in the XE paper has to answer the following

1. Section A – Engineering Mathematics
2. GA – General Aptitude

3. Any two of XE sections B to G

The choice of two sections from B to G can be made during the examination after viewing the questions. Only two optional sections can be answered at a time. A candidate wishing to change midway of the examination to another optional section must first choose to deselect one of the previously chosen optional sections (B to G).

> ▶ **5.1.3 XL Paper**

A candidate appearing in the XL paper has to answer the following

1. Section H – Chemistry
2. GA – General Aptitude
3. Any two of XL sections I to M

The choice of two sections from I to M can be made during the examination after viewing the questions. Only two optional sections can be answered at a time. A candidate wishing to change midway of the examination to another optional section must first choose to deselect one of the previously chosen optional sections (I to M).

➢ 5.2 Duration and Examination Type

The GATE examination consists of a single paper of **3-hour** duration that contains **65** questions carrying a maximum of **100 marks**. The question paper will consist of both multiple choice questions (MCQ) and numerical answer type (NAT) questions. The pattern of question papers is discussed in Section 5.3.

The examination for all the papers will be carried out in an ONLINE Computer Based Test (CBT) mode where the candidates will be shown the questions in a random sequence on a computer screen. The candidates are required to either select the answer (for MCQ type) or enter the answer for numerical answer type question using a mouse on a virtual keyboard (keyboard of the computer will be disabled). Each candidate will be provided with a scribble pad for rough work. The scribble pad has to be returned after the examination. At the end of the 3-hour window, the computer will automatically close the screen from further actions.

➢ 5.3 Pattern of Question Papers

> ▶ **5.3.1 Pattern of Question Papers**

In all the papers, there will be a total of 65 questions carrying 100 marks, out of which 10 questions carrying a total of 15 marks will be on General Aptitude (GA).

In the papers bearing the codes AE, AG, BT, CE, CH, CS, EC, EE, IN, ME, MN, MT, PE, PI, TF and XE, the Engineering Mathematics will carry around **15% of the total marks**, the General Aptitude section will carry **15% of the total marks** and the **remaining 70% of the total marks** is devoted to the subject of the paper.

In the papers bearing the codes AR, CY, EY, GG, MA, PH and XL, the General Aptitude section will carry **15% of the total marks** and the **remaining 85% of the total marks** is devoted to the subject of the paper.

GATE 2016 would contain questions of two different types in various papers:

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

(ii) Numerical Answer Questions of 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 will be shown for this type of questions.

Design of Questions

The questions in a paper may be designed to test the following abilities:

(i) *Recall*: These are based on facts, principles, formulae or laws of the discipline of the paper. The candidate is expected to be able to obtain the answer either from his/her memory of the subject or at most from a one-line computation.

Example

Q. During machining, maximum heat is produced

(A) in flank face

(B) in rake face

(C) in shear zone

(D) due to friction between chip and tool

(ii) *Comprehension*: These questions will test the candidate's understanding of the basics of his/her field, by requiring him/her to draw simple conclusions from fundamental ideas.

Example

Q. A DC motor requires a starter in order to

(A) develop a starting torque

(B) compensate for auxiliary field ampere turns

(C) limit armature current at starting

(D) provide regenerative braking

(iii) *Application*: In these questions, the candidate is expected to apply his/her knowledge either through computation or by logical reasoning.

22

Example

Q. The sequent depth ratio of a hydraulic jump in a rectangular channel is 16.48. The Froude number at the beginning of the jump is:

(A) 5.0   (B) 8.0   (C) 10.0   (D) 12.0

Examples of each of this design are given in the types of questions above.

The questions based on the above logics may be a mix of single standalone statement/phrase/data type questions, combination of option codes type questions or match items type questions.

(iv) *Analysis and Synthesis***:** In these questions, the candidate is presented with data, diagrams, images etc. that require analysis before a question can be answered. A *Synthesis* question might require the candidate to compare two or more pieces of information. Questions in this category could, for example, involve candidates in recognizing unstated assumptions, or separating useful information from irrelevant information.

➤ 5.4 Marking Scheme

For **1-mark** multiple-choice questions, **1/3** mark will be deducted for a wrong answer. Likewise, for **2-mark** multiple-choice questions, **2/3** mark will be deducted for a wrong answer. **There is NO negative marking for numerical answer type questions**.

Consult syllabus before proceeding

▶ 5.4.1 General Aptitude (GA) Questions

In all papers, GA questions carry a total of **15 marks**. The GA section includes 5 questions carrying **1-mark** each (sub-total **5 marks**) and 5 questions carrying **2-marks** each (sub-total **10 marks**).

▶ 5.4.2 Question Papers other than GG, XE and XL

These papers would contain **25** questions carrying **1-mark** each (sub-total **25 marks**) and **30** questions carrying **2-marks** each (sub-total **60 marks**). The question paper will consist of questions of multiple choice and numerical answer type. For numerical answer questions, choices will not be given. Candidates have to enter the answer (which will be a real number, signed or unsigned, e.g., 25.06, -25.06, 25, -25 etc.) using a virtual keypad. An appropriate range will be considered while evaluating the numerical answer type questions so that the candidate is not penalized due to the usual round-off errors.

▶ 5.4.3 GG (Geology and Geophysics) Paper

Apart from the General Aptitude (GA) section, the GG question paper consists of two parts: Part A and Part B. Part A is common for all candidates. Part B contains two

sections: Section 1 (Geology) and Section 2 (Geo-physics). Candidates will have to attempt questions in Part A and either Section 1 or Section 2 in Part B.

Part A consists of **25** multiple-choice questions carrying **1-mark** each (sub-total **25 marks** and some of these may be numerical answer type questions). Each section in Part B (Section 1 and Section 2) consists of **30** multiple choice questions carrying **2-marks** each (sub-total **60 marks** and some of these may be numerical answer type questions).

▶ 5.4.4 XE Paper (Engineering Sciences)

In XE paper, Engineering Mathematics section (Section A) is **compulsory**. This section contains **11** questions carrying a total of **15 marks**: 7 questions carrying **1-mark** each (sub-total **7 marks**), and 4 questions carrying **2-marks** each (sub-total **8 marks**). Some questions may be of numerical answer type questions.

Each of the other sections of the XE paper (Sections B through G) contains 22 questions carrying a total of **35 marks**: 9 questions carrying **1-mark** each (sub-total **9 marks**) and 13 questions carrying **2-marks** each (sub-total **26 marks**). Some questions may be of numerical answer type.

▶ 5.4.5 XL Paper (Life Sciences)

In XL paper, Chemistry section (Section H) is **compulsory**. This section contains **15** questions carrying a total of **25 marks**: 5 questions carrying **1-mark** each (sub-total **5 marks**) and 10 questions carrying **2-marks** each (sub-total **20 marks**). Some questions may be of numerical answer type.

Each of the other sections of the XL paper (Sections I through M) contains 20 questions carrying a total of **30 marks**: 10 questions carrying **1-mark** each (sub-total **10 marks**) and 10 questions carrying **2-marks** each (sub-total **20 marks**). Some questions may be of numerical answer type.

▶ 5.4.6 Note on Negative Marking for Wrong Answers

For a wrong answer chosen for the **multiple choice questions** (MCQs), there would be negative marking. For **1-mark** multiple choice questions, **1/3** mark will be deducted for a wrong answer. Likewise, for **2-mark** multiple choice questions, **2/3** mark will be deducted for a wrong answer. However, there is **NO negative marking for a wrong answer in numerical answer type questions**.

❖ 6. Post-Examination Related Information

➢ 6.1 GATE Score

After the evaluation of the answers, the raw marks obtained by a candidate will be converted to a normalized GATE Score.

The GATE score will be computed using the formula given below.

Calculation of Normalized Marks for CE, CS, EC, EE and ME papers (multi-session papers)

In GATE 2016, examination for some papers may be conducted in multi-sessions. Hence, for these papers, a suitable normalization is applied to take into account any variation in the difficulty levels of the question papers across different sessions. The normalization is done based on the fundamental assumption that "in all multi-session GATE papers, the distribution of abilities of candidates is the same across all the sessions". This assumption is justified since the number of candidates appearing in multi-session papers in GATE 2016 is large and the procedure of allocation of session to candidates is random. Further it is also ensured that for the same multi-session paper, the number of candidates allotted in each session is of the same order of magnitude.

Based on the above, and considering various normalization methods, the committee arrived at the following formula for calculating the normalized marks for the multi-session papers.

Normalization mark of jth candidate in the ith session $\widehat{M}_{ij}$ is given by

$$\widehat{M}_{ij} = \frac{\overline{M}_t^g - M_q^g}{\overline{M}_{ti} - M_{iq}}\left(M_{ij} - M_{iq}\right) + M_q^g$$

where

M_{ij}: is the actual marks obtained by the jth candidate in i^{th} session

$\overline{M}_t^g$: is the average marks of the top 0.1% of the candidates considering all sessions

M_q^g: is the sum of mean and standard deviation marks of the candidates in the paper considering all sessions

$\overline{M}_{ti}$: is the average marks of the top 0.1% of the candidates in the ith session

M_{iq}: is the sum of the mean marks and standard deviation of the ith session

After evaluation of the answers, normalized marks based on the above formula will be calculated corresponding to the raw marks obtained by a candidate and the GATE 2016 Score will be calculated based on the normalized marks.

For all papers for which there is only one session, actual marks obtained will be used for calculating the GATE 2016 Score.

Calculation of GATE Score for all papers

GATE 2016 score will be calculated using the formula

$$GATE\ Score = S_q + (S_t - S_q)\frac{(M - M_q)}{(\bar{M}_t - M_q)}$$

In the above formulae

M: marks obtained by the candidate (actual marks for single session papers and normalized marks for multi-session papers)

M_q: is the qualifying marks for general category candidate in the paper

$\bar{M}_t$: is the mean of marks of top 0.1% or top 10 (whichever is larger) of the candidates who appeared in the paper (in case of multi-session papers including all sessions)

S_q: 350, is the score assigned to M_q

S_t: 900, is the score assigned to $\bar{M}_t$

In the GATE 2016 score formula, M_q is usually 25 marks (out of 100) or $+\sigma$, whichever is larger. Here μ is the mean and σ is the standard deviation of marks of all the candidates who appeared in the paper.

After the declaration of results, GATE Scorecards can be downloaded by

(a) All SC/ST/PwD candidates whose marks are greater than or equal to the qualifying mark of SC/ST/PwD candidates in their respective papers, and

(b) All other candidates whose marks are greater than or equal to the qualifying mark of OBC (NCL) candidates in their respective papers.

There is no provision for the issue of hard copies of the GATE Scorecards.

The GATE 2016 Committee has the authority to decide the qualifying mark/score for each GATE paper. In case any claim or dispute arises in respect of GATE 2016, the Courts and Tribunals in Bangalore alone shall have the exclusive jurisdiction to entertain and settle any such dispute or claim.

➢ 6.2 GATE 2016 Results

GATE 2016 **results will be announced on March 19, 2016 at 17:00 hours** and will be available on the GATE Online Application Website.

GATE 2016 score is valid for **THREE YEARS** from the date of announcement of the results.

GATE 2016 results may be made available on payment basis to Government organizations (educational institutions, R & D laboratories, industries, etc.) in India and abroad based on a Memorandum of Understanding (MOU) between the Indian institute of Science and the organization intending to use the GATE score. Details in this regard can be obtained from The Organizing Chairman, GATE 2016, Indian Institute of Science.

➢ 6.3 GATE 2016 Score Card

After the declaration of results, qualified candidates can download their GATE 2016 Score Card for the paper (for which he/she has taken the examination). The GATE 2016 score cards can be downloaded between March 27, 2016 to May 29, 2016 and for that the candidate should access the GOAPS portal.

In case any candidate requires the soft copy of his/her GATE Score Card after May 29, 2016 till December 31, 2016, they can do so by paying a fee of ₹ 500 (five hundred only) on the GOAPS portal.

❖ 7. Frequently Asked Questions (FAQ)

➢ 7.1 Application Process

1. **How do I apply ONLINE?**
   By visiting the website http://appsgate.iisc.ernet.in

2. **Can I use one e-mail address to fill multiple application forms?**
   NO, one e-mail address can be used to submit only **one** application form.

3. **Why should I choose three examination cities?**
   A candidate will most likely be allotted a centre in the examination city of his/her first choice. Only in cases where there are too many candidates opting for a certain city as their first choice, the other two choices will be relevant. A candidate is required to fill his/her primary as well as secondary choices, but should remember that because of operational constraints, the GATE committee reserves the right to add a new city or remove an existing one, and allot a city that may not be any of the choices of a candidate.

4. **My power/internet connection failed during the application process, what do I do?**
   Please login to the GATE 2016 application website https://appsgate.iisc.ernet.in again and continue the application process.

5. **Only SC/ST/PwD candidates have been asked to upload the category certificates. What about the OBC (non-creamy layer) candidates? Do they have to upload the category certificate too?**
   NO. Category certificate is required only to decide the rate for the application fee. As far as the GATE 2016 examination is concerned, only SC/ST/PwD candidates and all women candidates qualify for a reduced fee. That is the purpose of asking for the certificate.

6. **How do I make the fee payment for GATE 2016 examination?**
   There is a link to a payment gateway from the application process.

7. **If I want the Online Payment (Net-banking) option, how should I complete the application process?**

After filling all the fields in the ONLINE application form, choose the Online Payment option and proceed for payment by following the instructions.

a) Your browser screen will re-direct you to the bank you choose. Login with your Internet Banking credentials and confirm the payment.

b) After confirming the payment, you will be re-directed back to the GATE 2016 application website where you would be required to fill in all the details.

c) At the end of this process, a PDF file will be generated with the following pages:

    i. **Page 1:** Application form with the necessary details of the candidates, like full name, date of birth (DoB), scanned photograph, sex, category (GE/OBC/SC/ST), PwD (Y/N), full contact address, mobile number, email id, etc.

    ii. **Page 2:** Bachelor degree certificate or certificate signed copy by the college principal (depending on your eligibility status).

    iii. **Page 3**: The uploaded caste certificate.

    iv. **Page 4**: The uploaded PwD certificate.

    v. **Page 5:** Online payment details like your bank account number, bank name, transaction id, date and time of transaction, amount paid, etc.

d) Save it or take a printout of the entire PDF file for your future reference/use.

8. **My power/internet connection failed during online payment. What do I do?**
When you can get back online, first check the status of your payment on the GATE application website.

a) If the payment was received by GATE, you can continue the process of printing the application form.

b) If the payment was not received by GATE, you have to start with the payment step again, to complete payment.

9. **My net banking account has been debited (money taken out) more than once. How do I get the money back?**
This can happen if your bank account was used more than once or you pressed refresh or back/forward button of your internet browser. Please check your bank account after 48 hours. Any unaccounted or excess money that was received on behalf of GATE 2016 from this account will automatically be returned (credited) to the same bank account.

10. **My bank account has been debited (money taken out), but GATE Application website says that the payment has not been received. What do I do?**

This happens because of some failure in internet transactions (including failure of internet connection at your end). As soon as possible, you MUST initiate a fresh payment process on the GATE application website, and make the payment again. The money that was debited (taken out) from your account in the first attempt, will be credited (put back) to your bank account within seven working days. You will be charged only once. Any excess/unaccounted debits will be returned to you.

11. **If I want the e-challan option, how should I complete the application process?**

If you select the e-challan option, then you will have to print the generated challan and will have to go to a branch of the State Bank of India and pay.

12. **Do I have to send the print-out of the application form?**

No.

13. **When and how will I know the status of my application?**

You can check the status of your application by logging into GOAPS website.

14. **After completing the ONLINE application process and generating a PDF file, will I be able to change my application data?**

NO. After completing all the steps up to PDF application form generation in the ONLINE application process, you can only download the application form and **CANNOT** modify the data. Hence you need to be very careful while entering the data. You may also save a partially filled application and login in again at a later point in time to complete and submit the application, however it must be within the specified deadline.

15. **I have missed to take a print-out of my ONLINE application at the end of my application process. How will I get access to it?**

You can login using GOAPS Enrolment ID and password and take a printout if you want it for your own reference. The print out must not be sent to GATE organizing institute.

➢ 7.2 Admit Card

1. **When will I receive my admit card?**

Admit Card can **ONLY** be downloaded from the zonal GATE websites from 17th December 2015. Admit Cards will **NOT** be sent by post.

2. **Is the Admit card alone sufficient to gain entry to the exam?**

NO. The Admit Card has to be brought to the test center **along with** at least one original (not photocopied/scanned copy) and valid (not expired) photo identification, whose details have been entered while filling the application. **ONLY** one of the following photo identifications is permitted: Driving license, Passport, PAN Card, Voter ID, Aadhaar UID, College ID, Employee Identification Card, or a

Notarized Affidavit with Photo, Signature, Date of Birth and Residential Address. Photocopies of the identification document are not acceptable. Candidates will not be permitted to take the exam if the original and valid photo identification is not presented.

➢ 7.3 GATE 2016 Exam

1. **For how many GATE papers can I apply?**

   A candidate can apply for only **ONE** of the 23 papers listed in the GATE INFORMATION BROCHURE or GATE website. The choice of the appropriate paper is the responsibility of the candidate. Some guidelines in this respect are suggested below.

   1. The candidate is expected to appear in a paper appropriate to the discipline of his/her qualifying degree.
   2. The candidate is, however, free to choose any paper according to his/her admission plan, keeping in mind the eligibility criteria of the institutions in which he/she wishes to seek admission.

2. **After submission of application, am I permitted to change my GATE Examination Paper?**

   Requests for change of GATE Examination paper after the submission of Application Form will not be considered.

3. **After submission of application, am I permitted to change my GATE Examination City?**

   Requests for change of examination city will be accepted till 20th November, 2015 with a fee of ₹400/-(four hundred only) to be paid online using GOAPS.

4. **Will I be provided with any white paper for rough work and calculations during the test?**

   A scribble pad will be provided to the candidate that can be used to do the rough work. The candidate has to return the scribble pad after the examination.

5. **Am I allowed to leave the examination hall during the test?**

   NO. Candidates will **NOT** be allowed to leave the examination hall for any reason during the test. Candidates are allowed to leave the computer laboratory where the exam will be conducted only after the closure of the test at the scheduled end of examination in a session.

6. **What items are not permitted to be brought with me inside the examination venue?**

Electronic diary, mobile phone, and any such electronic gadgets, blank papers, clip boards and log-tables will not be allowed in the examination venue.

7. **Can I use a physical calculator during the examination?**

   NO. During the online GATE 2016 examination, all candidates will be provided with an online scientific calculator which has to be used to answer the questions. No physical calculator will be allowed inside the examination hall. The same applies to mobile phones. GATE 2016 will not provide any storage space at examination locations for such objects. If a candidate brings personal belongings including mobile phones, those will have to be kept outside the examination hall at the candidate's risk.

8. **Will there be any arrangement at the test center for the safe keeping of my personal items such as my mobile phone?**

   NO. Such arrangements will not be possible at the test center.

❖ 8. Contact Us

GATE is jointly administered and conducted by the Indian Institute of Science and seven Indian Institutes of Technology. Table 8.1 gives the details of each Zonal Office. Each of the institutes administers a zone and caters to a list of examination cities that fall under that zone. Candidates are assigned a zone at the time of application, based on the first city of choice. Candidates must note this zone number for contact purposes.

Candidates must first try to read FAQs. If a query if not resolved even after going through FAQs, then they should use GOAPS (GATE Online Application Processing System) to contact zonal GATE offices, which will provide quicker and clearer information.

Table 8.1: Contact details for Zonal GATE Offices

Zone	Contact Address	Phone Number	e-mail Id
1	Chairman, GATE Indian Institute of Science Bengaluru 560 012	080-23606761, 23606762, 23606763, 23606764, 23606765	gate@gate.iisc.ernet.in
2	Chairman, GATE Indian Institute of Technology Bombay, Powai, Mumbai 400 076	022-2576 7068 022-2572 4054	gateoffice@iitb.ac.in
3	Chairman, GATE Indian Institute of Technology Delhi, Hauz Khas, New Delhi 110 016	011-2659 1749 011-2659 6137	chrgate@admin.iitd.ac.in
4	Chairman, GATE Indian Institute of Technology Guwahati, Guwahati 781 039	0361-258 2751	gate@iitg.ernet.in
5	Chairman, GATE Indian Institute of Technology Kanpur, Kanpur 208 016	0512-259 7412	gate@iitk.ac.in
6	Chairman, GATE Indian Institute of Technology Kharagpur, Kharagpur 721 302	03222-282091	gate@adm.iitkgp.ernet.in
7	Chairman, GATE Indian Institute of Technology Madras, Chennai 600 036	044-2257 8200	gate@iitm.ac.in
8	Chairman, GATE Indian Institute of Technology Roorkee, Roorkee 247 667	01332-284531	gate@iitr.ac.in

❖ 9. Appendix A

➢ 9.1 Authorities Empowered to Issue Certificates (SC/ST)

- District Magistrate/ Additional District Magistrate/ Collector/ Deputy Collector/ Deputy Commissioner/ Additional Deputy Commissioner/ 1st Class Stipendiary Magistrate/ City Magistrate/ Sub-Divisional Magistrate/ Taluk Magistrate/ Executive Magistrate/ Extra Assistant Commissioner.
- Chief Presidency Magistrate/ Additional Chief Presidency Magistrate/ Presidency Magistrate
- Revenue Officer not below the rank of Tahsildar
- Sub-Divisional Officer of the area where the Candidate and/or her/his family normally resides
- Administrator/ Secretary to Administrator/ Development Officer (Lakshadweep Islands)

Certificate issued by any other official will not be accepted.

➢ 9.2 PwD (Person with Disabilities) Category:

In order to avail concession under the PwD category, the candidates should attach a recently obtained proper PwD certificate, which shall be required to be submitted to the admitting institution at the time of admission. The onus of verifying PwD certificate lies with the admitting institute. The GATE committee will not be responsible for any incorrect declaration of the PwD status of candidates.

❖ 10. Appendix B: Qualifying Disciplines

Table 10.1: Qualifying Disciplines for Eligibility Degrees

Discipline: Engineering/Technology	Discipline: Science
Aeronautical Engg./ Aerospace Engg.	Agricultural Science
Agricultural Engg.	Applied Electronics
Applied Mechanics	Applied Physics
Architecture	Biochemistry
Automobile Engg.	Bio-Sciences
Biochemical Engg.	Chemistry
Biomedical Engg.	Computer Applications
Biotechnology	Earth Sciences
Ceramic & Glass Technology	Electronics
Chemical Engg.	Engineering Physics
Chemical Technology	Geology/ Geophysics
Civil/Civil & Environmental/Structural Engg./ Construction Engg.	Industrial Chemistry
Computer Engg.,/Computer Science &Engg./Technology	Life Science/Veterinary/Animal Science
Control and Instrumentation	Life Sciences
Electrical Engg./ Electrical and Electronics Engg./Power Engineering	Life Sciences (Botany)
Electro-Chemical Engg.	Life Sciences (Zoology)
Electronics & Comm./Electronics Engg./Comm. Engg. /Telecommunication Engg.	Materials Science
Energy Engg.	Mathematics/Applied Mathematics
Environmental Engg.	Microbiology
Food Technology/Food Processing Engg.	Nano Science & Technology
Industrial Engg.	Nuclear Physics
Industrial Management	Operations Research
Information Science/Information Technology/Information and Communication Technology	Pharmaceutical Sciences/Pharmacy
Instrumentation/ Electronics/Control	Physics
Instrumentation & Process Control	Radio Physics
Manufacturing Engg.	Radio Physics & Electronics
Material Science and Engineering	Statistics
Mechanical Engg.	Textile Chemistry
Mechatronics	All other disciplines in Sciences
Medical Instrumentation	
Metallurgical Engg./ Industrial Metallurgy	
Mineral Engg./Mineral Dressing	
Mining Engg./Technology, Mining & Machinery	
Naval Architecture/Marine Engg.	
Oil Technology	
Paint Technology	
Petro-Chemical Engg.	
Petroleum Engg./Technology	
Planning	
Plastic Technology	
Polymer Technology/Science	
Production & Industrial Engg.	
Renewable Energy	
Rubber Technology	
Textile Engineering &Fibre Science	
All other disciplines in Engg./Technology	

Information contained in this brochure is correct to the best of the knowledge and understanding of GATE 2016 committee as on August 1, 2015. There may be changes in future due to unavoidable reasons. As and when any change happens, it will be notified on GATE 2016 website http://gate.iisc.ernet.in