DEPARTMENT OF MATHEMATICS
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI
Phone: 0361–2582650, Fax: 0361–2582649, Email: mathoff@iitg.ac.in

Application No: **Date: 04 May 2026**

Sub: Call letter for Written Test and/or Interview for admission into Ph.D programme for the session July 2026.

Dear Mr./Ms.

With reference to your application for admission into **Ph.D** programme of the **Department of Mathematics**, you are hereby requested to appear for the selection process as per the details given below:

Selection Process

Discipline	Selection Process
Mathematics	Written (Screening) Test and Interview.
Probability, Statistics & Finance	Only Interview
Computer Science	Only Interview

Date:	**19-21 May, 2026**
Reporting Time:	**8:30 AM on 19th May, 2026**
Venue:	**Department of Mathematics IIT Guwahati (E-Block of Academic Complex)**

The details of written test along with syllabus are attached herewith.

You will be provided hostel accommodation (on sharing basis) at IIT Guwahati campus during the above-mentioned dates. However, you have to carry your bedding for your stay.

Please note the following: You will be required to keep your downloaded and **signed** copy of the Online Application Form ready,

ALONG WITH:

1. Your colour photograph of size 4.5 cm. x 3.5 cm., affixed on it;
2. Self-Attested copy of your Date of Birth Certificate (if DoB is not mentioned in your Class X/XII Pass Certificate/ Mark Sheet);
3. Self-Attested copy of your Caste Category Certificate, if applicable
4. Self-Attested copy of your 'PwD' Certificate, if applicable
5. NoC/Sponsored Certificate, as applicable, in the prescribed format for Non-Regular Category candidates.
6. Self-Attested copies of Pass Certificates and Mark Sheets [***Mark Sheets should be complete for all semesters/years*** of your educational qualifications (from Class X onwards)];
7. ***As may be applicable***, copy of your qualifying degree Grade Point Average to Percentage conversion certificate (or proof thereof);
8. ***As may be applicable***, attested copy of your valid GATE/CEED/NET(JRF) Score Card.
9. ***As may be applicable***, attested copy of Certificates relating to your professional experience etc.

You are also required to keep all **ORIGINAL documents mentioned above ready** for verification on the day of your **Written Test and/or Interview.**

The candidates who have not completed qualifying degree may appear in the Written Test and Interview,

- if you have appeared in the qualifying degree examination and your results are awaited

OR

- if you are going to appear in all the subjects of your qualifying degree examination before **15-06-2026**.

Please note that, for such candidates, selections shall be provisional. All provisionally selected candidates shall have to produce their original pass certificates and Mark Sheets of the qualifying degree examination latest by **31-08-2026**, for regularization – failure to which their admissions shall stand automatically cancelled.

Please note that:

For any other announcements, updates and results **as well as timely follow-up actions to be taken**, the candidates will have to constantly monitor the instructions available in the website with following URL:

https://iitg.ac.in/acad/admission/

and also see the webpage of Department of Mathematics, IIT Guwahati.

For any further clarifications, please contact: mathoff@iitg.ac.in

Yours sincerely,

Head of the Department

Details of Written (Screening) Test

Duration of Examination: **90 minutes**
Question Paper: **Objective type with multiple answers (i.e. one or more than one correct answers)**
Number of Questions: **30 (10 questions from each part viz; Linear Algebra, Real Analysis and Differential Equations)**
There will be no negative marking.

Syllabus

Linear algebra: Vector spaces (over the field of real and complex numbers), subspaces, spanning set, linear independence, basis and dimension; Linear transformations, rank-nullity theorem, matrix of a linear transformation, change of basis and similarity; Eigenvalues and eigenvectors, algebraic and geometric multiplicity, diagonalization by similarity; Inner-product spaces, Gram-Schmidt process, orthonormal basis; Orthogonal, Hermitian and symmetric matrices, spectral theorem for real symmetric matrices.

Differential Equations: Review of fundamentals of Differential equations (ODEs); Existence and uniqueness theorems, Power series solutions, Systems of Linear ODEs, Stability of linear systems. First order linear and quasi-linear partial differential equations (PDEs), Cauchy problem, Classification of second order PDEs, characteristics, Well-posed problems, Solutions of hyperbolic, parabolic and elliptic equations, Dirichlet and Neumann problems, Maximum principles, Green's functions.

Real Analysis: Completeness properties of real numbers, countable and uncountable sets, cardinality. Norms and metrics: Metric spaces, convergence of sequences, completeness, connectedness and sequential compactness; Continuity and uniform continuity, sequences and series of functions, uniform convergence.

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