Defence Institute of Advanced Technology

(Deemed to be University) under section 3 of UGC Act 1956),

Girinagar, Pune-411025

Ph.D. Programmes- July- 2026

Applications are invited for admission to Ph.D. Programme, as per description below.

Introduction:

Defence Institute of Advanced Technology (DIAT) is a Technological Institute of National repute for higher learning. The Institute imparts education and training in Advanced Technologies used for Tri-services, DRDO, DPSUs etc. DIAT found its roots in 1952, as a training institute that has grown over the years into a premier teaching and research institute for DRDO and the Armed Forces.

The main focus of the institute is to evolve as an innovative, unique research university to develop indigenous contemporary defence-related technologies and also to provide technological solutions to the Services. DIAT is committed to generating high-quality, talented human resources across broad areas of Defence Technologies to meet the needs of DRDO, the Armed Forces, and other Defence establishments.

DIAT offers admission to **Ph.D. (full-time)** in the frontier areas of Engineering & Applied Sciences.

Department /School-wise area of Research are as under: [Institutional Scholarship Category].

In addition, Project Staff (JRF/SRF/PA) from DRDO Laboratories & DIAT, and Candidates with CSIR-NET, DST, UGC-NET or any other National fellowship/scholarship available to them are also eligible to apply for Ph. D. admission in any subject area of the concerned Department / School.

Sr. No	Department / School	Subject / Research Area
1	Metallurgical and Materials Engg.	Polymer Composite, Biotechnology / Microbiology / Biochemistry/ Nanocomposites/ Flexible Electrodes/ Textile Materials/ Biomaterials/ Bio nano technology / Bio nano polymer, High Entropy Alloys, High Temperature Materials, Coating/ Corrosion, Supercapacitor and battery type electrode materials, Piezoelectric materials, Armor materials, Coating materials, Composite materials, High Temperature coating and Ceramics, Additive manufacturing, Texture Thermomechanical Processing of Metallic Materials Electrical Steel, Additive Frictions stir Processing/Welding, Corrosion Behaviour in Metallic Materials, Polymer Nanocomposites for energy storage and water treatment, polyurethane foam for acoustic absorption and oil-water separation and carbon foams for energy storage, Polymer blend structure property relationship, Polyurethane Synthesis. **Collaboration with HEMRL (DRDO), Pune:** Polymer Chemistry, Polymer Nanocomposite & Rubber Tech., Rheology.
2	Electronics Engg.	Radar, Radar Signal Processing, FPGA, SAR, RF Photonics, Space Optical Communication, Optical Antenna/ Filter/Isolator Design, RF, Microwave, EMI/EMC Shielding materials, Antenna Stealth Technology, UAV, Signal Processing, Robotics, Drone Surveillance, Underwater Acoustic, Intelligence, Radar, Anti Drone Technology, RFID, Antennas, Microwave Circuits, Wireless Power Transfer, Energy Harvesting, Embedded System, FPGA, VLSI, SoC, SDR, AI & ML.
3	Computer Science & Engineering	AI/ML, LLM, QML, Embedded AI, Embedded Cyber Security, Responsible AI, Post Quantum Cryptography, Blockchain Technology, Secure Software Engineering, AIML, Computer Vision, Cyber Security, Generative AI, Cybersecurity for AI, Responsible AI, Computer Sci, Cyber Security, Operating Sys, Malware Analysis, Network Forensics, Offensive Security, Hardware Security, On-Chip Networks, Digital Forensics. **Collaboration with RCI (DRDO) Hyderabad:** AI/ML techniques for computer vision, Generative AI and Large Language Models, Reinforcement Learning Techniques, Time Series analysis and forecasting, Neuromorphic Computing and Spiking Neural Networks, Scene Understanding, Digital Scene Matching Area Correlation, Swarm Algorithms,

4	Applied Mathematics	Applied Mathematics, Mathematical Modelling & Simulation, Fluid Mechanics, Convective in porous medium, Bio-Mechanics with AI & ML, Heat and Mass Transfer, FEM, AI/ML Methods to PDE, Numerical Solutions of PDEs with FEMs, FDMs and DDMs, Machine Learning for Numerical Methods and Scientific Computing, Mathematical Image Processing and Computer vision, AI for Scientific Discovery, Deep Learning, Computer Vision, LLM, Data Science, Machine Learning, Predictive maintenance, Non-Parameter Methods, Statistical, Machine Learning, Dimension Reduction.
5	Applied Chemistry, Energy and Environment.	Ionic Liquids, Hydrogen generation and combustion, Membrane separation, Energy Storage Wastewater Treatment, CO_2 sequestration, High Energy Materials, Organic Synthesis, Organic Hybrid Nanomaterials, Nanocomposites, Catalysis, Biomaterials Characterization, Biomimecity, Hydrogels, Sol-Gel Synthesis, Mesoporous Materials, Bio-fuels, Hydrogen Fuel Cell, Solar thermal applications-Photovoltaics, Desalination, Energy Management, Solar Energy, Hydrogen storage and refuelling, Thermal management, CFD and Heat Transfer, Sustainability. **Collaboration with HEMRL (DRDO), Pune:** Physical and Analytical Chemistry and explosives, processing and chemical analysis, Computational Design, Synthesis & Analytical Characterization of Energetic Materials, Synthetic Organic Chemistry, High Explosive Formulations, Organic Chemistry, Propellant Chemistry, Organic Chemistry & Propellant Chemistry, High Energy Materials, Gun Propulsion System, Energetic Materials & Allied Materials, Organic Synthesis & characterization of Energetic materials, Polymer chemistry & Composite propellants, Reaction Engineering, Solid Rocket Propulsion, Propulsion/ Ballistics/ Energetic Materials, Solid Rocket Propulsion/Rheology/ Process Engineering, Chemical kinetics, Process optimization and Pyrotechnics.
6	Mechanical Engg.	Indentation, Deformation behaviour, Impact Mechanics, Surface Engineering, Tribology, Avionics, FEM, Vibration, Impact Mechanics, Repairing Technology, Damage Mechanics, Fracture Mechanics, Composite Structure, Stress Analysis, Composite material processing, Additive manufacturing, Micro Machining, Surface Engineering, Creep, CFD, Fluid Mechanics, Composite Structures, Fracture Mechanics, Functionally Graded Structures, Impact Mechanics, Heat transfer, Fluid Mechanics, Flow Control.
7	Aerospace Engg. and Autonomous Systems.	Robotics Control, Aerodynamics, Guidance & Control of Aerospace Vehicle, Aerospace Structures.
8	Applied Physics	Device Development for neuromorphic computing / photodetectors / Lab on chip devices / sensor development, Sensing Materials, Pulsed laser deposition systems, Thin films, Non-liner optics / ML-Based material optimization, Electronics-Nose for chemical VOC Sensor, Radar Absorbing materials, Metamaterials, Photoacoustic communication, Quantum imaging, Rydberg Sensor, Quantum material for single photon source, RF Photonics, Biophotonics, Optical Wireless Communication, Hyperspectral Imaging, Femtosecond Laser, Fiber Sensor, THz Photonics, High Power Ultrafast Fiber laser, Nonlinear Optics.
9	School of Defence Technology Management	Behavioural Sciences, Aviation Management, Project Management, Supply Chain Management, Quality Management, Operation Research, Industrial Engineering, Aviation Technology, Maritime Surveillance, Applied AI/ML in Technology & Management.
10	School of Quantum Technology	Quantum Communication, algorithms and theory, Quantum Metrology & Sensing, Quantum Simulation & Quantum machine learning, Optical Quantum Computing, Quantum Optics. **Collaboration with DYSL-QT (DRDO) Pune:** Quantum Communication, Quantum Random Number Generation: Security analysis & evaluation strategies for QRNG systems, Superconducting circuit based Quantum Computing, Atomic Magnetometer Characterization • NMOR based Magnetometer • FID based Magnetometer

Note:

1. The candidates applying for Ph.D. Programme will be given opportunity to opt for a Joint Supervision in Ph.D Programme, with the Homi Bhabha National Institute (HBNI), Birla Institute of Technology and Science (BITS) and CSIR – Central Scientific Instruments Organizations (CSIR-CSIO), Chandigarh.

2. **PhD degree in collaboration with DRDO laboratory: a** Ph.D scholar who will work on DRDO live research problems will be admitted at DIAT and deputed at DRDO laboratory. Ph.D. scholar will be jointly guided by faculty from DIAT and a Scientist at DRDO laboratory. Fellowship for a Ph.D. scholar will be paid by the DIAT.

Eligibility:

1) Qualification

A candidate seeking admission to the PhD program shall be required to have passed the qualifying examination, securing at least 55% marks or equivalent CGPA/DGPA. A relaxation of 5 % of marks may be allowed for those belonging to SC/ST/OBC (non-creamy layer) / PWD - (Divyang) categories. The qualifying degrees are: -

a) Master of Engineering/Master of Technology/ Master's in Science (or equivalent) with a national-level test such as CSIR/UGC NET, JEST, Graduate Aptitude Test for Engineering (GATE), NBHM, etc. DIAT will decide the subject-wise and category-wise GATE/NET cut-off.

OR

b) ME/M.Tech/MBA/ MS, in a relevant discipline **(For School of Defence Technology & Management)** with a national-level test such as CSIR/UGC NET, JEST, Graduate Aptitude Test for Engineering (GATE), NBHM, etc. DIAT will decide the subject-wise and category-wise GATE/NET cut-off.

OR

c) Master of Engineering/Master of Technology (or equivalent) with CGPA of 7.5/10 or 70% of marks. Relaxation of 5% will be given to SC/ST/OBC (Non-Creamy Layer)/PwD/EWS.

OR

d) A 1-year / 2-semester master's degree programme after a 4-years / 8-semesters bachelor's degree programme or 2-year /4-semester master's degree programme after a 3-year bachelor's degree programme, or qualifications declared equivalent to the master's degree by the corresponding statutory regulatory body, with at least 55% marks in aggregate or its equivalent grade in point scale wherever grading system is followed. Provided that a candidate seeking admission after a 4-years/8-semester bachelor's degree programme should have a minimum of 75% marks in aggregate or its equivalent grade on a point scale wherever the grading system is followed. A relaxation of 5% marks or equivalent grade may be allowed for those belonging to SC/ST/OBC (non-creamy layer), Differently-Abled/EWS and other categories of candidates as per the decision of the Commission from time to time.

OR

e) A candidate with Master of Engineering/Master of Technology/ Master of Science (or equivalent) who are a recipient of National Doctoral Fellowship or other fellowships from government / semi-government organization such as Council of Scientific and Industrial Research (CSIR), University Grants Commission (UGC), INAE, All India Council for Technical Education (AICTE), Department of Science and Technology (DST), Dept. of Biotechnology (DBT), Defence Research and Development Organization (DRDO), Department of Atomic Energy (DAE), Rajiv Gandhi National Fellowship or similar organizations.

OR

f) Project Staff [JRF/SRF/RA] from DRDO Laboratories & DIAT with Master of Engineering/Master of Technology/ Master of Science (or equivalent) working under sponsored projects may be allowed to register for PhD, subject to fulfilling eligibility criteria **AND / OR** qualified GATE/NET examination. Upon completion of the project, if the student fulfils the eligibility criteria, he/she may be eligible for the DIAT fellowship under DIAT rules.

2) Age limit

Not above 35 years as on July 01, 2026.
Relaxations as per the Government of India rules apply to SC/ST/OBC/PH applicants.

Note:-

a) Women candidates are encouraged to apply for admission.

b) The Institute shall implement the reservation policy in Ph.D. admission in accordance with relevant act of Parliament being in-force from the time.

c) A PWD (Divyang)/ SC/ST/OBC (non-creamy layer) candidate shall not get double benefit of being an SC/ST/OBC (non-creamy layer) as also a PWD candidate.

3) Selection:

Admission to PhD will be based on the performance in the entrance exam (written test) conducted by the department concerned, followed by a personal interview.

a) For the Institute fellowship category, first preference will be given to candidates who are CSIR/UGC NET, JEST, GATE, NBHM, etc., qualified.
b) After filling seats from S.No. 3 (a), Vacant seats will be allotted to the candidate based on the qualification criteria 1 (c) if found suitable.

4) Financial Assistance:

a) The selected Ph.D. candidates against this admission notice, admitted as full-time Ph.D. students [Institutional Scholarship category] will be provided financial assistance as per the Institute's rules, in force from time to time. Currently the institutional fellowship for the first two year is of Rs. 37000/- and after that Rs. 42000/- up to 05 years / till the submission of thesis, whichever is earlier. The Ph.D. students (who are provided Institute fellowship) may also be assigned 4-6 hours per week of teaching/research assistantship for conducting tutorial or laboratory work and evaluation.

b) In addition to the Ph.D. scholarship, such candidates would also be entitled to a contingency grant (presently Rs. 15,000/- per year) in accordance with the decisions of the Institute.

5) Boarding / Lodging:

Selected candidates will be provided hostel accommodation (Exclusive Girls Hostel available). Mess facilities are available on payment basis. The present monthly charges towards boarding and lodging are Rs. 7000/- (subject to revision). However, Rs. 40,000/- is to be deposited at the beginning of each Semester, in advance, towards lodging and boarding charges. A security deposit of Rs. 10,000/- must be paid to the Hostel Office.

6) How to Apply:

The application form is available at the Institute's website http://www.diat.ac.in . Application fee of Rs. 500/- for General / OBC category & Rs. 250/- for SC/ST & Women candidates, per programme is required to be paid either online (through State Bank collect) or by Demand Draft drawn in favour of Vice Chancellor, DIAT, Pune, payable at Pune-411025. The filled in application form in the prescribed proforma has to be forwarded in a sealed envelope, super scribed "Application for Admission to PhD Programme in the Department / School of _____" to the Joint Registrar (Academics), Defence Institute of Advanced Technology, Girinagar, Pune 411025 along with the DD / online generated receipt and self-certified copies of mark lists, certificates and other testimonials. These documents should reach DIAT by 15th May 2026. Postal delay will not be entertained. **Candidates seeking admission to more than one Department/School must apply separately (Maximum Two Departments).**

7) General Information:

- Since the applications may be short listed, mere possessing of the prescribed qualifications would not entitle a person to be called for a written test/interview. The Institute may restrict the number of candidates to be called for the written test/interview to a reasonable limit, based on qualifications / marks higher than the minimum prescribed in the advertisement.
- For shortlisting of candidates, the department screening committee may decide subject-wise and category-wise GATE/NET cut-off.
- Application once made will not be allowed to be withdrawn and fees once paid will not be refunded on any count, nor can it be held in reserve for any other admission process
- Canvassing in any form will be a disqualification. Postal delay shall not be entertained.
- No correspondence will be entertained in respect of advertisement, interview, selection etc. The list of Shortlisted candidates will be displayed on http://www.diat.ac.in website along with other information viz. date of Interview / Written Test / Result. The candidates are requested to check the DIAT (DU) Website http://www.diat.ac.in for related information from time to time.

8) Course Fee and Other Charges:

Selected candidates for the Ph.D programmes are required to pay Semester Fee @ Rs. 37,000/- per semester (for Gen & OBC) and @ Rs. 22,000/- (for SC & ST), caution deposit of Rs. 20,000/- & Rs.6000/- as Admission fee payable immediately at the time of joining.

From 3rd year onwards @ Rs. 42,000/- per semester (for Gen & OBC) and @ Rs. 27,000/- (for SC & ST), Fees payable up to submission of thesis by candidate admitted to Ph.D. programme shall be as prescribed by the Institute from time to time.

9) Important Dates:

- **Last Date of receipt of Hard copy of application** :**15th May 2026**
- **Tentative Date of Written Test / Interview** :**13th June 2026**
- **Tentative date of commencement of the programme** :**1st week of July 2026**