Defence Institute of Advanced Technology

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

Girinagar, Pune-411025

Ph.D. Programmes- January- 2027

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:
[Only for Institutional Scholarship Category]

Sr. No	Department / School	Research Code	Subject / Research Area
1	**Applied Chemistry, Energy & Environment**	**SB**	Organic Synthesis, Material Chemistry
		RY	Solar Energy, Hydrogen Storage, Hydrogen Generation & Combustion, & refueling, Thermal Management in Aero & Defence Applications, CFD, Environment & Sustainability
2	**Computer Science & Engineering**	AM	Cryptography, Post Quantum Cryptography, Blockchain, Secure Software Engg.
		DV	Cyber Security, AI pipeline development, Offensive Security
3	**Mechanical Engineering**	SC	CFD, Mechanical Engineering, Heat Transfer
4	**School of Quantum Technology**	KRP	Cavity-enhanced squeezed light generation, Ultrafast lasers in quantum optics, QKD.
		KS	Tailoring the discrete and continuous variable quantum states of light, Development of multiqubit quantum sources for quantum technology and QKD
		SK	Cold atom quantum sensing using atom interferometry, Rydberg electrometry using thermal atomic vapour.
5	**Applied Physics**	TB	Nanomaterials for wearable electronic sensors, Memristors for Neuromorphic computing, Microfluidic Systems, Optical Sensors, Solar Cell and Energy applications.
		SD	Nanotechnology for Sensors, Stealth materials, Radome, Development of Device for sensor system from materials, electronics, AI/ML to packaging.
		DD	Photoacoustic Communication., QRNG, Quantum Communication, Fiber laser, Optical Sensors, Fiber Optics Sensor, LIDAR, FSOC, Single Photon Source.

6	**Electronics Engineering**	AAB	Radar Systems, Radar Signal Processing, RF-Photonics, Image Processing, Laser Space, Communication, Real-Time DSP design using FPGA.
		RKS	Antennas, RF & Microwave Circuits, RFID Wireless Power Transfer, Metamaterial.
7	**Aerospace Engineering & Autonomous Systems.**	HV	Navigation, Guidance and Control of UAV / Aircraft / Missiles.
8	**Metallurgical and Materials Engineering.**	HSP	Supercapacitor and battery type electrode materials, Piezoelectric materials, Armor materials, Coating materials, Composite materials, Stealth Materials, Thermal Batteries
		VH	Additive manufacturing, Texture, Thermomechanical Processing of Metallic Materials Electrical Steel, Additive Frictions Stir Processing / Welding, Corrosion Behaviour in Metallic Materials
9	***Collaboration with DRDO**	INMAS	Radiation Biology, Radiation Decontamination, Radio-pharmaceutical chemistry
		RCI	Optical sensing and interrogators, RF modulations and algorithms, Hardware/ algorithm development using RF SoC, System level Power and area optimization techniques, Continuous beam cold Atom Interferometer, Mobile Cold Atom Interferometer Accelerometer, Co-Magnetometer Gyroscope, Rydberg Atom Based RF Sensor for Seeker Application, Electrostatically Suspended Accelerometer.
		GTRE	Thermo-Acoustic Instabilities in Afterburner of a Military Aero Gas Turbine Engine, Modelling of Two-phase flow Fuel Sprays in Afterburner of a Military Aero Gas Turbine Engine
		LRDE	Metamaterial based antenna array, Frequency selective surface radome, Reconfigurable Reflect Array for Space Application.

[Collaboration with DRDO] :
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 DIAT.

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 below subject area of the concerned Department / School.

Sr. No	Department / School	Research Code	Subject / Research Area
1	**Applied Chemistry, Energy & Environment**	PSK	Ionic Liquids, Hydrogen Generation & Combustion, Membrane Separation, Energy Storage, Wastewater Treatment, CO2 Sequestration
		SB	Organic Synthesis, Material Chemistry
		CB	Functional Hybrid Nanomaterials, Photocatalysis, Biological Materials & Composites, Organic-Inorganic Hybrid Materials, Mesoporous Materials, Self-Assembly & Biomimecity, Bio- mineralization, Polymer Composites, High Energy Materials, etc.
		NB	Thermal Energy Storage, Hydrogen Combustion, Production, Storage, Transportation, Bioenergy, Solar Energy
		RY	Solar Energy, Hydrogen Storage & Refuelling, Thermal management in Aero and Defence Applications, CFD, Hybrid Energy Systems, Environment & Sustainability
	Science & Engineering	AM	Cryptography, Post Quantum Cryptography, Blockchain Technology, Secure Software Engg.

		CRS	AI, LLM, AR/VR
		MN	Quantum ML, Embedded AI, Embedded Cyber Security, Responsible AI
		SD	AI, CV, DL
		BJ	AI/ML, Cyber security, Hardware security, Cloud Computing
		DV	Language models, Cyber Security, NLP, Malware Analysis
3	**Mechanical Engineering**	AK	Indentation, Deformation behaviour, Impact Mechanics, Surface Engineering, Tribology, Avionics, FEM, Vibration
		SKP	Impact Mechanics, Repairing Technology, Damage Mechanics, Fracture Mechanics, Composite Structure, Stress Analysis
		DGT	Composite material processing, Additive manufacturing, Micro Machining, Surface Engineering.
		SC	CFD, Fluid Mechanics
		SN	Composite Structures, Fracture mechanics, Functionally Graded Structures, Impact Mechanics
		PMN	Heat transfer / Fluid Mechanics / Flow Control
4	**School of Quantum Technology**	KRP	Cavity-enhanced squeezed light generation, Ultrafast lasers in quantum optics, QKD.
		KS	Tailoring the discrete and continuous variable quantum states of light, Development of multiqubit quantum sources for quantum technology and QKD
		SK	Cold atom quantum sensing using atom interferometry, Rydberg electrometry using thermal atomic vapour.
5	**Applied Physics**	TB	Nanomaterials for wearable electronic sensors, Memristors for Neuromorphic computing, Microfluidic Systems, Optical Sensors, Solar Cell and Energy applications.
		SD	Electronic Nose, Stealth materials, Radome, Development of Device for sensor system from materials, electronics, AI/ML to packaging.
		DD	Photoacoustic Communication., QRNG, Quantum Communication, Fiber laser, Optical Sensors, Fiber Optics Sensor, LIDAR, FSOC, Single Photon Source.
		AVR	Bio photonics/Optical Wireless Communication/Hyperspectral Imaging.
		SM	Femtosecond Laser/Fiber Sensor/THz Photonics/High Power Ultrafast Fiber laser / Nonlinear Optics.
6	**Applied Mathematics**	SKM	Applied Mathematics, Convection in Porous Media, Computational Numerical Method's for Differential Equations (AI / ML, Finite Element Method), Mathematical Modelling, Cryptography.
		OO	Applied Maths / Any Branch of Engineering, Fluid Mechanics.
		DS	Fluid Mechanics with AI & ML, Bio-Fluid Mathematics.
		DP	Numerical Solution to PDF, Machine Learning, Image Processing.
		BR	Deep Learning, Computer Science Electronics and Communication Engineering Robotics.
		YD	Signal Processing, Machine Learning, Deep Learning.

		SK	ML, DL, Fuzzy Metric Spaces, Probability Statistics.
7	**Electronics Engineering**	AAB	Radar Systems, Radar Signal Processing, RF-Photonics, Image Processing, Laser Space, Communication, Real-Time DSP design using FPGA.
		BNM	High Speed Computing, Edge Computing, Navigation Systems, Acoustic Processing.
		KKS	RF, Microwave, EMI/EMC Shielding material, Antenna Stealth Technology, UAV.
		RKS	Antennas, RF & Microwave Circuits, RFID Wireless Power Transfer, Metamaterial.
		BCM	ASIC Design, Quantum & Photonics, VLSI & Embedded System, Semiconductor Devices.
8	**School of Defence Technology & Management**	SS	Behavioural Sciences, Aviation Management, Project Management.
		NW	Supply Chain Management, Quality Management, Operations Research, Industrial Engineering.
		AN	Aviation Technology, Maritime Surveillance, Applied AI/ML in Technology & Management.
9	**Aerospace Engineering & Autonomous Systems**	AK	Structures, Vibrations, Digital Twins, Metamaterials
		SS	Robot Dynamics, Nonlinear Control, VML, LLM.
10	**Metallurgical and Materials Engineering.**	BK	Polymer Composite/ Biotechnology/ Microbiology/ Biochemistry/ Nanocomposites/ Flexible Electrodes/Textile Materials/Biomaterials/ Bio nano Technology/ Bio nano polymer
		ST	High Entropy Alloys, High Temperature Materials, Coating / Corrosion
		HSP	Supercapacitor and battery type electrode materials, Piezoelectric materials, Armor materials, Coating materials, Composite materials, Stealth Materials, Thermal Batteries
		VH	Additive manufacturing, Texture, Thermomechanical Processing of Metallic Materials Electrical Steel, Additive Frictions Stir Processing / Welding, Corrosion Behaviour in Metallic Materials
		TUP	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.

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/ Master of Science in Management (**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 Jan 01, 2027.
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 semester) 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 favor 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 **27th Nov 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 : 27th Nov 2026**
- **Tentative Date of Written Test : 29th Dec 2026**
- **Tentative Date of Interview : 30th Dec 2026**
- **Tentative date of commencement of the programme : 3rd week of Jan 2027**