



# Defence Institute of Advanced Technology

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

Girinagar, Pune-411025

**Ph.D. Programmes- Jan-2025 Batch**

**Category - MoD Sponsored /Self Sponsored (DRDO, Tri-Services), Industry Sponsored /Industry Self Sponsored, Other R&D Govt. Organizations.**

**Applications are invited for admission to Ph.D. Programmes for the Session Jan-2025 as per description below.**

**Details of Department / School-wise vacancies for admission to PhD Programme Jan-2025.**

Sr. No.	Department / Schools	Subject/Research Area	Vacancies
1	Aerospace Engineering	Control & Guidance	01
2	Metallurgical and Materials Engg.	Biotechnology / Microbiology / Biochemistry/ Nanocomposites/ Flexible Electrodes, High Energy Alloys, High Temperature Materials, Control Welding, Entropy Alloy, 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, 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, Computational Materials Engineering, Energy Materials, Machine Learning, Microstructural modelling, Organic Photovoltaics, Phase-field modelling, Modelling and Simulation of Batteries and Supercapacitors.	06
3	Computer Science & Engineering.	QML, Anonymous Networks, Trustworthy AIML, Security in AIML, AI/ML AR/VR, Cryptography, Post Quantum Cryptography, Blockchain Technology.	06
4	Applied Mathematics	Applied Mathematics, Convective in porous medium, FEM, AI/ML, Methods to PDE, Mathematical Modelling, Fluid Mechanics, Applied Mathematics, Fluid Mechanics and ML in FM, Computer Vision, Machine Learning, Deep Learning, Statistical ML, Non-Parameter Methods Dimension Reduction.	05
5	Applied Physics	Photonics, Optics, Lasers, Terahertz.	01
6	Applied Chemistry	Biotechnology / Life Sciences / Bio Chemistry / Functional Foods / preclinical drug discovery, Synthesis and Applications of Ionic Liquids, Photocatalytic Hydrogen Generation, Wastewater Treatment, Energy Storage Materials, Catalysis & Combustion, Adsorption of Solutes, Membrane Process.	03

7	Electronics Engineering	Antenna Systems, Microwave Engg. & Radar Applications, Radar, Radar Signal Processing, FPGA, SAR, RF, Photonics, EMI/EMC, RF, Microwave, Antenna Stealth & Shielding Materials, Brain Computer Interfacing, Human Computer Interaction, Signal Processing, Automations, RFID, Antennas, Microwave Circuits, Embedded System FPGA, VLSI, SoC, Electronic Circuits & Systems Devises, SDR.	12
8	Mechanical Engineering	Indentation, Deformation behaviour, Impact Mechanics, Surface Engineering, Tribology, Avionics, FEM, Vibration, Broad area of Mechanical Engineering & its allied Branch, Composite material processing, Additive manufacturing, Micro Machining, Surface Engineering, CFD, Fluid Mechanics, Blast, Hardened Structures, Terramechanics, CFD, FSI, Shock tube Blast Valve, Heat Transfer, Composite structures, Fracture Mechanics, Functionally Graded Structures, Impact Mechanics, Heat transfer, Fluid Mechanics, Flow Control.	14
9	School of Robotics	Robotics Control System, Aerial Robotics, Control and Dynamics, Underwater Robotics, AI/ML for Robotics.	03
10	Technology Management	HR analytics, Strategic Management, Knowledge Management, Organizational Behaviour, Innovation Management, R&D Management, Project Management, Supply Chain Management, Technology Management, Quality Management, Materials Management, AI in Maintenance Management and HR/People Analytics.	06
11	School of Energy & Environmental Systems	Green solvents, Combustion of Hydrogen, Photocatalytic Hydrogen Generation, Biomass to Fuel, Energy Storage Materials, Fuel Cell Membranes, Adsorption of Solutes, Wastewater Treatment, CO2 sequestration, Heat transfer enhancement, Heat Exchangers, Refrigeration and Air conditioning, Solar thermal applications-Photovoltaics, Desalination, IC Engines, CFD, Bio-fuels, Waste to Energy, Hydrogen Fuel Cell, Energy Management, Phase change materials, CFD and Heat Transfer, Hydrogen storage, Electric vehicles, Artificial Intelligence and Optimization, Solar Energy, Gas recovery from hydrates, Environmental Impact, Sustainability and Climate Science.	03

\* The number of vacancies is only indicative and DIAT reserves the right in this matter.

### **Eligibility for External Part Time Research Scholar:**

- A candidate, seeking admission to the Ph.D. 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 (or equivalent) for Ph.D. in Engineering/Science.
  - b) Master in Science (M.Sc. or equivalent) for Ph.D. in Science
  - c) BE/B.Tech with 10 years of research/industrial experience for PhD in Engineering / Science.
  - d) For Dept. of Technology Management:
    - i) M.Sc/ME/M.Tech/MS/MBA in relevant discipline.
    - ii) BE/B.Tech with 10 years of research / Industrial experience
  - e) A candidate who is sponsored as a part-time candidate by a government department / public sector undertaking / R & D, with at least five years of relevant experience, who shall work for his/her Ph.D. in his/her parent organization fulfilling the residency period requirement as per Rules & Regulations for the Award of the Degree of Doctor of Philosophy - 2016. The candidate is required to submit a NOC, sponsorship and work experience certificate from the parent organization. [Annexure I & J]

## **Last Date of Application:**

Duly filled-in application in the prescribed proforma may be forwarded to the Joint Registrar (Academics), DIAT (DU), Girinagar, Pune-411025 so as to reach on or before **12<sup>th</sup> Nov 2024**.

## **Selection:**

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

## **Course Fee & Other Charges:**

**MoD Sponsored (DRDO & Service Officers) & MoD Self-Sponsored (DRDO & Service Officers) Candidate:** Selected candidates for the Ph.D. programmes are required to pay Semester Fee @ Rs.50,000/- per semester payable immediately on joining, Rs. 1000/- as alumni life membership fee and caution deposit of Rs. 10,000/-

For Industry Sponsored, Other R&D Govt. Organisations, DPSU's, Govt. Industry etc are required to pay Semester Fee @ Rs. 65,000/- per semester payable immediately on joining Rs. 1000/- as alumni life membership fee and caution deposit of Rs. 10,000/- & Rs. 4000/- as a one-time fee.

## **Important Dates:**

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| ➤ Last Date of receipt of Hard copy of application | : | <b>12<sup>th</sup> Nov 2024</b>        |
| ➤ Tentative Date of Written Test / Interview       | : | <b>10<sup>th</sup> Dec 2024</b>        |
| ➤ Tentative date of commencement of the programme  | : | <b>1<sup>st</sup> week of Jan 2025</b> |
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