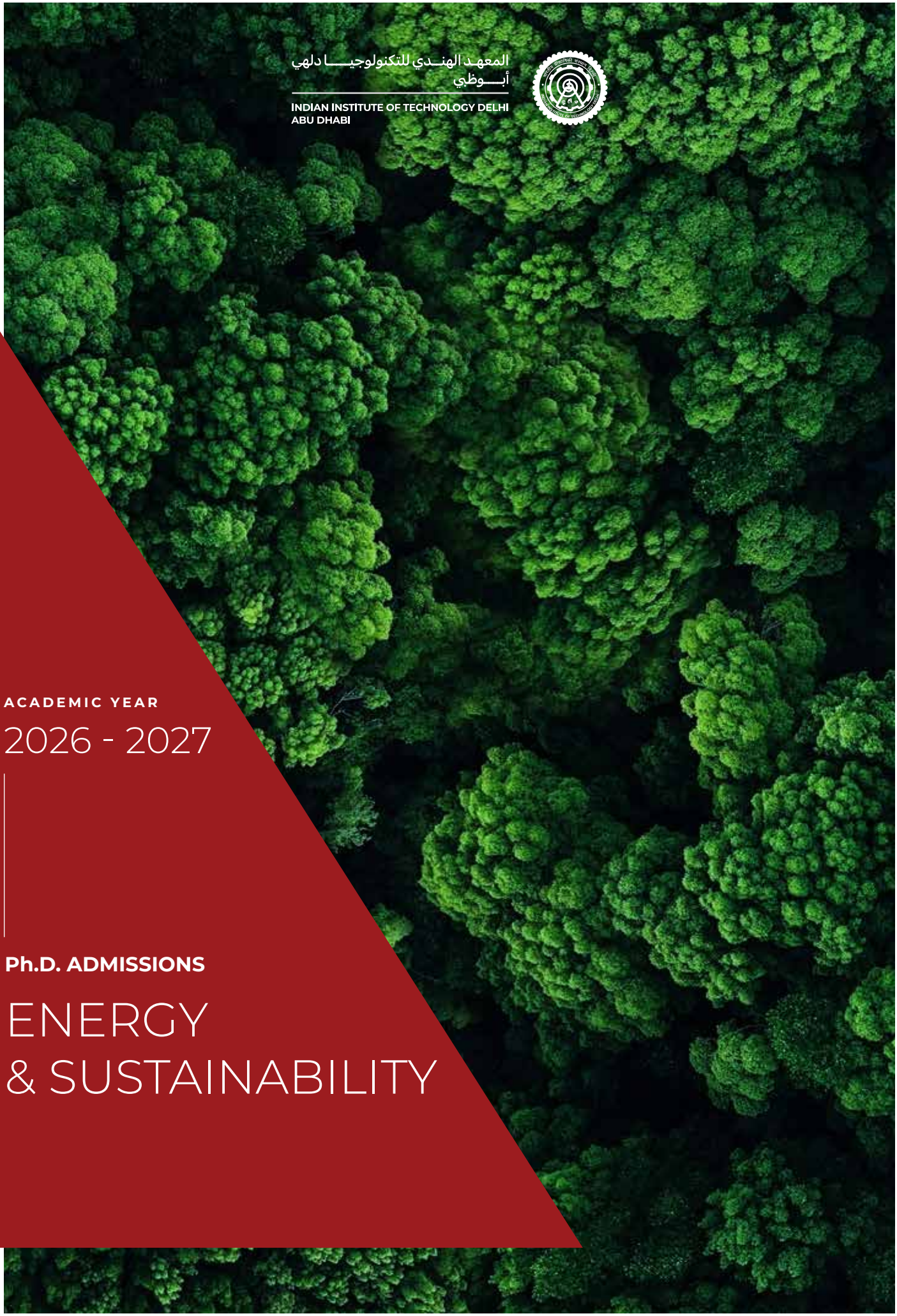


المعهد الهنـدي للتكنولوجيـــا دلهي
أبـــوظبي

INDIAN INSTITUTE OF TECHNOLOGY DELHI
ABU DHABI

ACADEMIC YEAR

2026 - 2027

Ph.D. ADMISSIONS

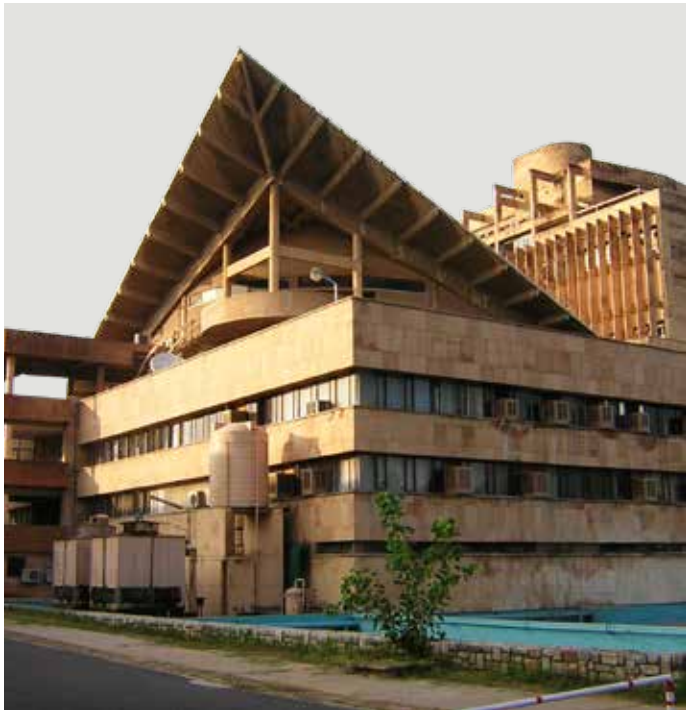
ENERGY & SUSTAINABILITY

INDIAN INSTITUTE OF TECHNOLOGY DELHI

Our Legacy

The Indian Institute of Technology Delhi (IIT Delhi) is one of India's highest-ranked academic institutions. Since its inception, over 60,000 students have graduated from IIT Delhi in various disciplines, including Engineering, Physical Sciences, Management, Humanities, and Social Sciences.

From visionary tech entrepreneurs reshaping industries to influential policymakers guiding national agendas and groundbreaking researchers pushing the boundaries of knowledge, IIT Delhi's alumni are a force of transformative leadership across diverse fields, consistently driving innovation.



Global Rankings IIT Delhi

QS ASIAN UNIVERSITY RANKINGS 2026

1ST

Southern Asia

QS University Rankings 2026

QS WORLD UNIVERSITY RANKINGS

36TH

Worldwide in Engineering & Technology

QS University Rankings 2026

QS ASIAN UNIVERSITY RANKINGS 2026

59TH

in Asia

QS University Rankings 2026

About
IIT Delhi - Abu Dhabi

The establishment of the Indian Institute of Technology Delhi – Abu Dhabi (IITD-AD) as the first international branch campus of IIT Delhi marks a significant milestone in its global outreach and underscores the deepening educational partnership between India and the UAE.

The Institute began operations in January 2024 with its inaugural program, Master of Technology (M. Tech.) in Energy Transition and Sustainability. Since then, IITD-AD expanded its academic portfolio to include Bachelor of Technology (B. Tech.) programs in Computer Science & Engineering, Energy Engineering, and Chemical Engineering, along with a Ph.D. program in Energy and Sustainability.

In 2026, IITD-AD is further expanding its offerings with the addition of B. Tech. in Electrical Engineering, M. Tech. in Machine Intelligence and Data Science (MINDS), and Ph.D. programs in Computer Science and Artificial Intelligence, and Natural Sciences, strengthening its academic and research focus across core and emerging domains.

With its strategic location, future-forward programs, and the IIT Delhi heritage, the Abu Dhabi campus is poised to become a leading hub for engineering, technology, and research in the region, nurturing a new generation of global innovators and leaders.

ABOUT THE PROGRAM

Ph.D. in Energy and Sustianability

The global imperative to decarbonize the fossil fuel sector and revolutionize industrial practices has positioned in-depth research across energy and sustainability as a paramount necessity. Navigating the multifaceted challenges of the energy transition, encompassing its inherently multidisciplinary nature, the intricate pathways for decarbonizing hard-to-abate industries, and the critical demand for economically viable and environmentally responsible solutions, requires comprehensive understanding and in-depth investigations.

Recognizing the catalytic role of research in overcoming these hurdles, the faculty at IIT Delhi and IIT Delhi – Abu Dhabi have established state-of-the-art research programs in the area of Energy and Sustainability. Their collective expertise spans innovative chemical processes, the development of sustainable materials, a diverse spectrum of energy technologies, intelligent electricity networks, sophisticated computational simulations, and the transformative application of artificial intelligence for optimizing complex energy systems.

Research at IITD-AD directly confronts the core challenges of this transition, with focused investigations aimed at enhancing efficiency, minimizing environmental impact, ensuring grid stability, and accelerating the adoption of clean energy solutions. By fostering robust international collaboration and strategically leveraging regional insights, our Ph.D. program is meticulously designed to cultivate essential expertise in the energy and sustainability sector, empowering students with high-caliber research skills, an unwavering work ethics, and the capacity for significant contributions to a decarbonized future.

PROGRAM REGISTRATION MODES

The Ph.D. program at IIT Delhi – Abu Dhabi is offered in three modes:

1. FULL-TIME STUDENTS (WITH ASSISTANTSHIP)

Full-time students dedicate themselves fully to their Ph.D. research while residing on campus for the program's duration. They also gain valuable experience as Teaching or Research Assistants, for which they receive an attractive scholarship. This option is ideal for individuals seeking an immersive research and teaching experience.

2. FULL-TIME STUDENTS (WITH SPONSORSHIP)

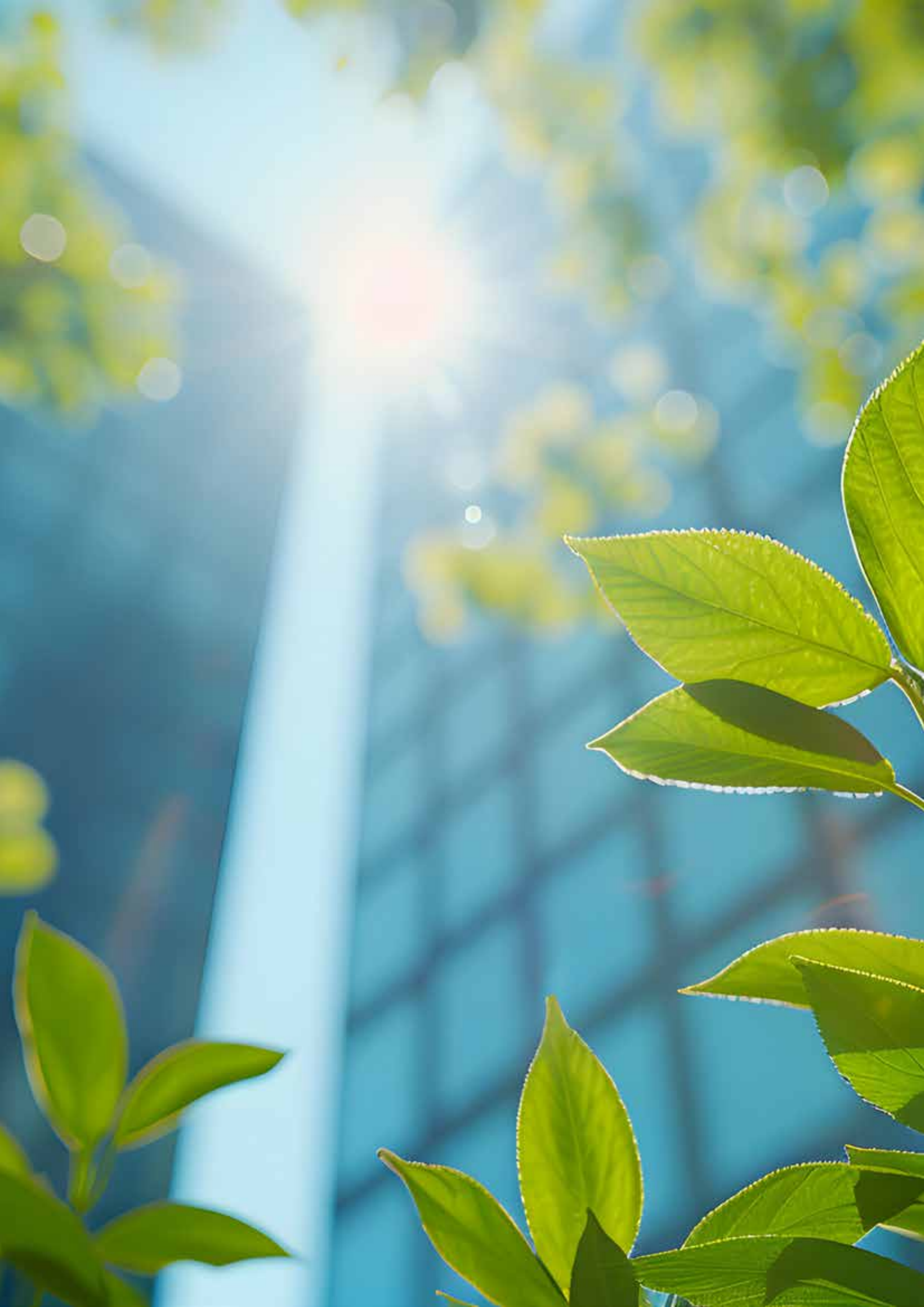
Supported by their employer or possibly by another organization, these full-time students are fully engaged in their research program, having secured a leave of absence for a minimum of three years. While they do not receive a stipend or general scholarship from IIT Delhi - Abu Dhabi, they may be eligible for partial tuition fee waivers. This mode caters to students whose advanced studies are supported by an external sponsor.

3. PART-TIME STUDENTS

This mode allows working professionals to pursue their Ph.D. remotely, requiring regular visits to work in the laboratories. For the coursework phase, in the initial semester, in-person attendance in the classes for the courses registered is mandatory. Part-Time students do not receive a scholarship but may be eligible for partial fee waivers. This option is specifically designed for individuals seeking a research degree while continuing their professional careers.

NOTE:

Regardless of the enrolment mode, the credit requirements and academic progression standards remain consistent across all three categories, ensuring the program's academic rigour.



PROGRAM STRUCTURE

The Ph.D. program at IIT Delhi – Abu Dhabi is structured around the following three key components:

1. COURSEWORK*

Ph.D. students are required to complete coursework based on their previous qualifying degree, as follows:

Qualifying degree at the time of admission	Minimum number of credits required as coursework (relevant to the research topic)
2 years, M. Tech., M.S., M.S.(R), M.E., 5-year Integrated M. Tech., or equivalent	6
4 year, B. Tech., B.S., B.E. or equivalent	12
2 years M. Sc. (after 3 years of B. Sc.), 5-year Integrated M. Sc., or equivalent	12-20

Additionally, students must complete non-graded courses on communication skills / research writing and professional ethics.

***Note:** Coursework requirements may vary depending on the specific research problem and area.*

2. COMPREHENSIVE EXAMINATION AND RESEARCH PLAN

Ph.D. students must appear for a written comprehensive examination related to their research topic and present a research plan to their research committee within the following stated timeframe:

- Full-Time (with Assistantship) and Full-Time (with Sponsorship): 18 months
- Part-Time: 24 months

3. RESEARCH WORK

The core of the Ph.D. program involves students conducting independent research. The Student Research Committee evaluates each student's progress every semester. A typical Ph.D. project requires a total of 4-5 years to complete. Under special circumstances, the maximum allowed duration for the Ph.D. is 7 years.

EXPLORE THE PROSPECTIVE PH.D. PROJECTS HERE

ADMISSION PROCESS

Candidates are encouraged to apply for the program irrespective of their preference for the registration mode. The admission process is multi-stage and will consist of the following:

(a) Shortlisting, based on the Eligibility Criteria

(b) Interview, which may have multiple stages. The interview committee may seek recommendation letters from the referees in arriving at its final decision.

Once a candidate is selected, their entitled scholarship or fee waiver will be considered separately on an individual basis. Further details are provided below.

ELIGIBILITY & ADMISSION PROCESS

1. QUALIFYING DEGREE:

Candidate can be considered for the program if she/he has any one of the following qualifications:

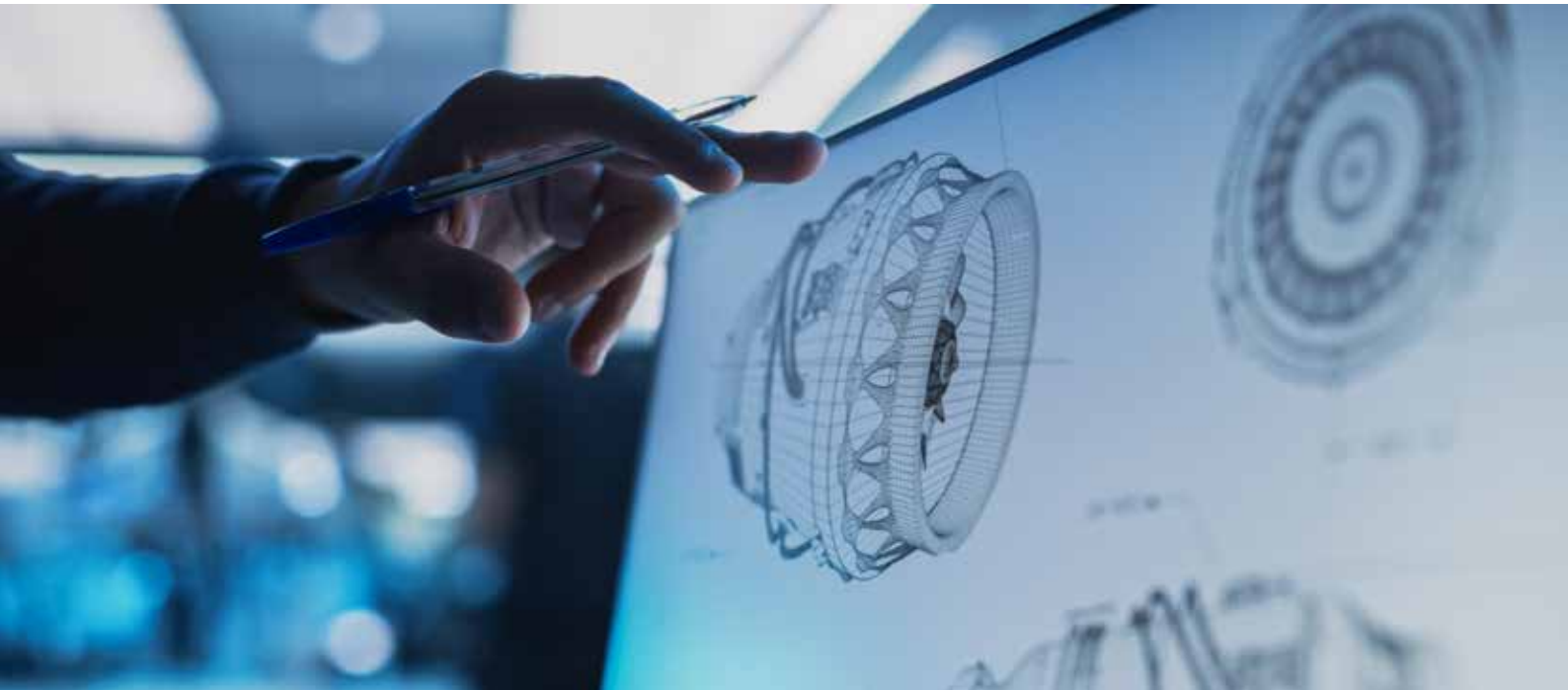
- Master's degree of minimum two years duration in the concerned discipline with a minimum GPA of 6.00 (on a 10.00 point scale), or 2.40 (on a 4.00 point scale), or aggregate marks of 60% (or equivalent);
- Bachelor's degree of minimum 4-year duration in the concerned engineering or science discipline with a minimum GPA of 7.00 (on a 10.00 point scale), or 2.80 (on a 4.00 point scale), or aggregate marks of 70% (or equivalent);
- Bachelor's degree of 3-year duration, and a Master's degree in the concerned discipline of minimum 2-year duration, with a minimum of 7.00 (on a 10.00 point scale), or 2.80 (on a 4.00 point scale), or aggregate marks of 70% (or equivalent).

The above GPA/marks requirement is the Institute minimum. Higher GPA/marks requirements may be used during the actual shortlisting of applicants.

2. ENGLISH LANGUAGE PROFICIENCY:

Candidate can be considered for the program if she/he has any one of the following proofs of English language proficiency:

- Proof that the medium of instruction has been English throughout the duration of the qualifying degree(s) (point 1);
- Minimum qualification in Standardized English Tests: 6.0 in IELTS, or 550 in TOEFL (or any other equivalent standardized test);
- In case the candidate does not have any of the above two at the time of application, she/he may still apply and will be provisionally admitted. Such a candidate will have 180 days (6 months) from the date of registration to furnish such proof.



3. STANDARDIZED TEST & WORK EXPERIENCE REQUIREMENTS:

Candidates need to appear in standardized technical assessment test, like the Graduate Aptitude Test in Engineering (GATE), or a similar test conducted by IITD-AD. Requirements are as follows:

- Candidate applying for full-time registration with the IITD-AD scholarship:
    - If the candidate has earned a Bachelor's degree of a minimum of 4 years' duration and a master's degree of 2 years, no GATE is required.
    - If the candidate has a minimum of 2 years of work experience after completing a qualifying degree, such as a 4-year bachelor's or a 3-year Bachelor's followed by 2 years of master's (point 1), no GATE is required. However, a qualification in the written examination conducted by IITD-AD is required.
    - If the candidate has a qualifying degree, such as a 4-year bachelor's or a 3-year Bachelor's followed by 2 years of master's and work experience of less than 2 years, then:
        - If the candidate (any nationality) has earned her/his qualifying degree (point 1) from India, then they should have a minimum GATE score of 350 (this requirement is waived for candidates whose qualifying degree is from a Centrally Funded Technical Institute (CFTI), and have a graduation GPA/marks of 8.00 (on a 10.00 scale) or 80%);
        - If the candidate (any nationality) has earned her/his qualifying degree (point 1) from any country other than India, then she/he has to appear and qualify in the IITD-AD written examination.
- Candidate applying under full-time sponsored category (no IITD-AD scholarship):
    - Minimum 2 years of work experience after completion of a qualifying degree (point 1) is required;
    - GATE score requirement or IITD-AD written test qualification is waived;
    - Sponsorship letter from the employer is required.
- Candidate applying under part-time category (no IITD-AD scholarship):
    - Minimum 2 years of work experience after completion of qualifying degree (point 1), required (1 year required for an IITD-AD employee);
    - GATE score requirement or IITD-AD written test qualification is waived.
    - No objection letter from the employer is required.

4. FINAL SELECTION INTERVIEW:

Final selection will be done through an oral interview (which may have multiple rounds).

2026

KEY DATES AT A GLANCE

MAY

25TH
Launch of online application portal

JULY

5TH
Last date for submission of online application

10TH
Shortlisting of applicants and further communication

19TH
Date of the written test*** (where applicable)

20TH-24TH
Range of dates for the interview

28TH
Declaration of the result and communication of offers

31ST
Deadline for acceptance of the offer by the candidate

AUGUST

19TH
Registration and orientation of the new Ph.D. students

***Venue:** IIT Delhi campus/IIT Delhi - Abu Dhabi campus*
(More venues can be added based on number of applications from a particular country)

STATEMENT OF PURPOSE (SoP)

Candidates can choose up to three Ph.D. projects from the provided list. Candidates applying in the Full-Time (with Sponsorship) and Part-Time registration modes can also propose their own Ph.D. project based on the need and relevance of their industry.

The candidates must submit a Statement of Purpose, with the following sections:

a. Why do you wish to pursue a Ph.D. program at IIT Delhi - Abu Dhabi? What are your expectations from the campus and the academic program, if selected? (maximum 200 words)

b. In the order of priority for each Ph.D. project (select up to three of the listed projects), write a summary of a maximum of 400 words addressing the following questions:

i. What is your understanding of the Ph.D. problem selected, and what approach would you adopt to research the problem?

ii. How do your background and interests make you a suitable candidate for working on this Ph.D. project?

LIST OF Ph.D. PROJECTS
SEMESTER 1, 2026-27

Ph.D. IN ENERGY AND SUSTAINABILITY

1. Novel Materials and Pathways for Biomass Valorization to Sustainable Aviation Fuels
(Proposed Faculty Supervisors: Prof. Rachit Khare, Prof. Mohammad Ali Haider)

2. Engineering Catalytic Pathways for Selective CO_2 Conversion to C_2+ Fuels and Chemicals
(Proposed Faculty Supervisors: Prof. Rachit Khare, Prof. Manjesh Kumar (IIT Delhi))

3. Electrochemical Transformation of CO_2 to C_2+ Fuels and Chemicals
(Proposed Faculty Supervisors: Prof. Rachit Khare, Prof. Shantanu Roy)

4. Techno-Economic Assessment of Hydrogen Production Pathways for Energy Transition
(Proposed Faculty Supervisors: Prof. K. Ravi Kumar and Prof. Dibakar Rakshit)

5. Advanced Weather Forecasting Using Hybrid Physics and Artificial Intelligence Techniques
(Proposed Faculty Supervisors: Prof. K. Ravi Kumar and Prof. Ravi Kumar Kunchala (IIT Delhi))

6. Solar Powered Humidification-Dehumidification for Water Generation and Thermal Comfort
(Proposed Faculty Supervisors: Prof. K. Ravi Kumar and Prof. Dibakar Rakshit)

7. Investigation on Ultra High Temperature Generation using Concentrating Solar Thermal Technologies for Green Cement Production
(Proposed Faculty Supervisors: Prof. K. Ravi Kumar, Prof. Shashank Bishnoi and Prof. Rangan Banerjee)

8. Decarbonizing Hard-to-Abate Sectors Through Life Cycle Assessment of Next Generation Low-Carbon Technologies
(Proposed Faculty Supervisors: Prof. Mohammad Ali Haider, Dr. Ashutosh Negi (HCT))

9. Computational Design of Materials for Integrated Carbon Capture and CO_2 Valorisation
(Proposed Faculty Supervisors: Prof. Mohammad Ali Haider, Prof. Rachit Khare)

10. Rational Design of Advanced Energy Storage Materials Using Multiscale Simulations, AI, and High-Throughput Screening
(Proposed Faculty Supervisors: Prof. Mohammad Ali Haider and Prof. Dibakar Rakshit)

11. Adaptive Multi-Physics Digital Twin Framework for Reliability and Real-Time Predictive Control of Wide-Bandgap (SiC/GaN) Power Converters
(Proposed Faculty Supervisors: Prof. Ashu Verma, Prof. Sukumar Mishra (IIT Dhanbad/IIT Delhi))

12. Digital Twin for Real-Time State-of-Health (SOH) Estimation, thermal Runaway Prediction in High Power EV Battery Packs and integration for the real-time vehicle scheduling
(Proposed Faculty Supervisors: Prof. Ashu Verma, Prof. B.K. Panigrahi (IIT Delhi), Prof. Dibakar Rakshit)

13. Modelling heat in low carbon concrete for hot climates
(Proposed Faculty Supervisors: Prof: Shashank Bisnoi, Prof. Kemal Celik (NYU-AD))

14. Modelling microstructural development of low carbon cements
(Proposed Faculty Supervisors: Prof: Shashank Bisnoi, Prof. Kemal Celik (NYU-AD))

15. Optimal Designs of Structured Catalytic Surfaces for Syngas to Liquids Production for aiding the Energy Transition
(Proposed Faculty Supervisors: Prof. Shantanu Roy, Prof. Manojkumar Ramteke (IIT Delhi), Prof. Hariprasad Kodamana (IIT Delhi))

16. Conceptualizing a Mini-Haber Process: A Microplant powered by Green Hydrogen
(Proposed Faculty Supervisors: Prof. Shantanu Roy, Prof. Mohammad Ali Haider)

17. Thermodynamic Characterization of Sour Reservoir Fluids: Experimental and Physics-AI Based Modeling
(Proposed Faculty Supervisors: Prof. Dibakar Rakshit, Prof. Shantanu Roy, Prof. Hariprasad Kodamana (IIT Delhi))

18. Multi-Scale Thermal-Hydraulic Modeling and Data Assimilation for Passive Safety Systems in SMRs
(Proposed Faculty Supervisors: Prof. Shantanu Roy, Prof. Prapanch Nair, Prof. Dibakar Rakshit)

DOCUMENTS REQUIREMENTS

LIST OF DOCUMENTS REQUIRED

- ☐ Qualification Degree and Transcript Clearly Mentioning the Overall GPA
- ☐ Statement of Purpose (SoP)
- ☐ Experience Certificate, if applicable
- ☐ Sponsorship Certificate/Letter***, if applicable
- ☐ No Objection Certificate***, if applicable
- ☐ GATE score card, if applicable

*** *In case a Sponsorship Certificate/Letter or a No Objection Certificate (NOC) is not available at the time of application or interview, you may provide an undertaking stating that the same would be submitted at the time of admission, if selected.*

FEES & SCHOLARSHIPS

TUITION FEE: **AED 80,000 PER YEAR**

<table>
<tr><th colspan="4">Scholarships</th></tr>
<tr><td colspan="2">Program Registration Modes</td><td colspan="2">Nationality</td></tr>
<tr><td rowspan="5">Full-Time</td><td rowspan="3">Full-Time
(with Assistantship)</td><td>International</td><td>National</td></tr>
<tr><td>Scholarship:
AED 15,000 per month</td><td>Scholarship:
AED 30,000 per month</td></tr>
<tr><td>Travel:
Funding for two roundtrip tickets to the student’s home country per academic year, specifically for use during the summer and winter vacation periods [not applicable for students with residence in the UAE]</td><td>Travel:
As applicable</td></tr>
<tr><td colspan="2">100% tuition fee waive</td><td>100% tuition fee waiver</td></tr>
<tr><td rowspan="2">Full-Time
(with Sponsorship)</td><td>No Scholarship</td><td>No Scholarship</td></tr>
<tr><td>Tuition fee waiver will be determined on a case-by-case basis, based on the type of sponsorship, on application</td><td>Tuition fee waiver will be determined on a case-by-case basis, based on the type of sponsorship, on application</td></tr>
<tr><td colspan="2" rowspan="2">Part-Time Students</td><td>No Scholarship</td><td>No Scholarship</td></tr>
<tr><td>Tuition fee waiver will be determined on a case-by-case basis, on application</td><td>100% tuition fee waiver</td></tr>
</table>

STUDENT TESTIMONIALS

I chose the Ph.D. program at IIT Delhi - Abu Dhabi for its innovative focus on Energy and Sustainability and its global research ecosystem. Working in the CAPS and REC Lab under Prof. Haider and Prof. Kodamana has been phenomenal. The world-class HPC facilities directly empower my research using DFT and Machine Learning to engineer MOFs for carbon capture.

This program has drastically sharpened my computational skills, allowing me to bridge theoretical chemistry with real-world climate solutions. I really value the chance to participate in the vibrant, cross-disciplinary discussions with international peers and faculty through various seminars, conferences, and workshops we get to regularly host and attend.

STUDENT:

AHMED

Program: Ph.D. in Energy & Sustainability

Nationality: India

Choosing IIT Delhi - Abu Dhabi was a natural progression after my M. Tech. from IIT Delhi and a decade in the utility sector across Sudan and Saudi Arabia. I wanted to bridge my practical experience in power systems with advanced research into sustainable energy pathways. Guided by faculty such as Prof. Ashu Verma, I leverage my background in grid integration and policy analysis to conduct rigorous doctoral research.

My work on grid-integration costs for the GCC and East African systems has sharpened my technical mastery of energy modeling and national decarbonization strategies. This program has transformed me from a senior engineer into a researcher capable of influencing global energy policy. The campus laboratories and simulation facilities have sharpened my ability to design cost-effective power solutions that drive decarbonization.

STUDENT:

ALBRAA KHLIL ALSHORBGY MOSTAFA HAMZA

Program: Ph.D. in Energy & Sustainability

Nationality: Sudan

STUDENT TESTIMONIALS

Due to my work at the Ministry of Water and Energy as an Energy Expert, I was fortunate to receive the opportunity to pursue my M. Tech. at IIT Delhi. During my M. Tech. in Renewable Energy Technologies and Management at IIT Delhi, I witnessed how the guidance of IIT Delhi supervisors helps one develop both practical and academic skills in the field.

When I learned about the Ph.D. program being offered at IIT Delhi – Abu Dhabi after completing my M. Tech., I realized that this was the natural next step to fully benefit from the experience and knowledge that IIT Delhi has to offer. I am pleased to share that IITD-AD has been doing an excellent job in meeting these expectations.

STUDENT:

HIRUTEAMLAK G. KIDANEMARIAM

Program: Ph.D. in Energy & Sustainability

Nationality: Ethopia

I chose this program because I wanted my work to have a tangible impact on the planet's future. My research explores how AI can revolutionize energy systems. I began working with my guide professors on these areas. Their mentorship has been the cornerstone of my journey; they have been incredibly supportive, helping me refine my vision and pushing me to think more critically about sustainable innovation.

Through their guidance, I have transformed from an enthusiast into a rigorous researcher with the skills to solve complex problems. This program hasn't just taught me about energy; it has taught me how to lead in a rapidly changing field. My advice to anyone joining is to lean into the expertise of the faculty - their insights are truly invaluable.

STUDENT:

SAVITA GOND

Program: Ph.D. in Energy & Sustainability

Nationality: India

CAMPUS LIFE

IIT Delhi – Abu Dhabi offers comfortable and convenient on-campus housing for both male and female students. Subsidized meal plans are available in the dormitories, along with dedicated transport facilities to and from student residences for ease of access. The campus is thoughtfully designed to support a well-rounded student experience, with dining facilities, laundry services, a library, a fitness centre, student lounges, and comprehensive security.

Building on the vibrant student life traditions of IIT Delhi, the Abu Dhabi campus launched its own calendar of cultural, technical, and sports festivals in 2025, drawing enthusiastic participation from universities across the UAE. In the spirit of IIT Delhi's flagship events such as Tryst and SPORTECH, students benefit from cross-campus engagement, including opportunities to participate in competitions and events across both campuses. A vibrant and evolving student club culture further energizes campus life. Students can engage in a wide range of clubs and activities, including sports (football, badminton, cricket), fine arts, fintech, energy and sustainability, digital design, and quizzing; offering avenues to lead, create, and collaborate.

LIFE IN ABU DHABI

Abu Dhabi, the capital of the UAE, is a city where deep cultural heritage meets bold, future-facing ambition, making it one of the most compelling places in the world to pursue postgraduate study.

For graduate students, the city offers more than a degree. It offers proximity to world-class research institutions, global industry players, and public institutions that are at the forefront of the region's transformation in technology, sustainability, and innovation.

Life in Abu Dhabi extends well beyond academics. From the Sheikh Zayed Grand Mosque and the world-renowned cultural district on Saadiyat Island to a diverse food scene and year-round outdoor activities, the city has much to offer. A thriving international and diverse community makes it easy for students to settle in quickly and feel at home.

Choosing Abu Dhabi means choosing a city that is growing with purpose, and that purpose creates real opportunities for those who are part of it.

SCAN TO KNOW MORE

CONTACT US
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Phone: +971 24958510
IIT Delhi - Abu Dhabi, Khalifa City B. Abu Dhabi, UAE