Indian Institute of Technology Indore

Ph.D. Admission

At

Centre for Rural Development and Technology (CRDT)

https://www.iiti.ac.in/   https://crdt.iiti.ac.in/

ONLINE APPLICATION STARTS ON: October 16, 2023

About the Centre

Centre for Rural Development and Technology (CRDT) hosted at IIT Indore, is a nodal hub for researchers, volunteers, practitioners, educators to collaborate and facilitate rural empowerment and progress solutions The team strives to facilitate empowerment to rural population to improve their living conditions by development and application of appropriate and people friendly technologies adopting participatory, sustainable, democratic, transparent and gender sensitive processes The CRDT is committed to come up as a platform for applied research, device development, skill & manpower development in the nationally important area of rural development.

Categories of Admission

Indian Students:

‣ FA (Fellowship Awardee)

‣ SW (Sponsored without Institute scholarship)

‣ IS (Institute Staff)

‣ DF (Defense Forces)

‣ CT (College Teacher).

International Students:

‣ ISF: International Self financing

‣ ISW: International Sponsored by Industry or NGO

‣ GSW: International sponsored by Govt. organization (ICCR/Foreign Govt. Scholarship)

For more details about the categories, please visit
http://academic.iiti.ac.in/phdadvt.php.

Eligibility

Minimum Educational Qualification and Qualifying Examination

Masters' degree in Science or Engineering or Humanities and/or Social Sciences (Mechanical/ Metallurgical/ Electronics / Electrical / Physics / Engineering Physics/ Mathematics / Statistics/ Microelectronics / Instrumentation / VLSI Design / Embedded System / Optoelectronics /Materials Science and Engineering / Nanotechnology / Energy Science and Engineering / Laser Technology / Tele Communication / Chemistry/ Mechatronics / Microwave Engineering / Biotechnology / Biological Sciences / Structural Engineering / Construction Management / Economics / Agricultural Economics / Political Science / Development Economics / Forest Economics / Environmental Science / Geography / Instrumentation and Controls / Environmental geotechnics / Space Engineering/ Geotechnical engineering / Engineering (Any Stream) (with first division as defined by the awarding Institute/ University)

Research Areas

The Center offers the following areas of research for PhD admission:

- Agricultural and Environmental Economics, Sustainability Studies, Impacts of Climate Change, Food Security, Water Energy Food Nexus.
- Application of Artificial Intelligence Techniques in Agriculture problems.
- Building Products for Rural Areas.
- Development and evaluation of sustainable materials for soil stabilization in rural infrastructure.
- Disaster risk reduction in rural areas.
- Early disease detection in crops for sustainable eco-system.
- Evaluation of the socio-economic impact of rural infrastructure development on local communities.
- Food and bioprocessing equipment design and scaleup.
- Integration of traditional knowledge and practices with modern technologies for sustainable rural development.
- Natural Resource and Environmental Economics, Climate change impact on Agriculture, Tribal Studies, Policy Analysis, Rural Development.
- Noise, Vibration, and Harshness in Agriculture Machinery and Automobiles.
- Nutrient-energy-water nexus
- Optimization of construction techniques and materials for cost-effective and sustainable rural housing.
- Resilience of Agro-ecological Systems
- Sensors for agriculture
- Sustainable Construction
- Sustainable rural healthcare
- Sustainable Techniques to Food Storage
- VLSI Circuit and System Design

For more information, please visit faculty profiles.

Application Procedure

1. A candidate must apply ONLINE through the website (https://pgad.iiti.ac.in/). This will generate a unique application number for each applicant.

2. Application Fee: The details are available at https://academic.iiti.ac.in/phdadvt.php.

3. A shortlisted candidate must arrange recommendation letters from at least two referees with whom he/she has had academic interactions at least for a year

❖ **Deadline for online form submission:**

October 31, 2023

❖ **Deadline for receiving recommendation letters: October 31, 2023**

❖ **Tentative date of written & interview (in-person): November 08, 2023**

Address for Correspondence

Centre for Rural Development and Technology (CRDT), IIT Indore

Khandwa Road, Simrol, Indore

453552, M.P., India

Phone No: +91 731 660 3203

Email: https://crdt.iiti.ac.in/

Important Information

1. All eligible candidates, fulfilling the minimum eligibility criteria, must apply ONLINE through the website (https://pgad.iiti.ac.in/).

2. After applying online, the applicants should take a printout of the application form and sign the same. The scanned copy of the duly signed application form, along with the following documents, should be sent by email to: crdt-office@iiti.ac.in latest by **October 31, 2023.**

A. Self-attested photocopies of all relevant supporting documents such as degree certificates, mark sheets, date of birth certificate, etc., from Xth class onwards. Candidates may also attach attested photocopies of any other testimonials, documents, or certificates that they wish to present before the selection committee.

B. Soft copy of the passport-size photograph.

C. Receipt of fee (Rs.100/-) paid through SBI I-collect.

D. Candidates should arrange for two referees to send the reference letter directly to crdt-office@iiti.ac.in latest by **October 31, 2023.**

3. For SW candidates: Scanned copy of the No Objection Certificate (NOC), Experience Certificate, Salary slips of the last three months, and Employer's PAN card must also be sent by email.

4. DO NOT send any form or documents by post.

5. Only shortlisted candidates will be called for written test and/or interview, and the same will be notified by email. No emails or communication, in any form, regarding shortlisted candidates, change of interview date, syllabus of written test and/or interview, etc. will be entertained.

6. Candidates are strongly advised to visit the faculty member's webpage to know about ongoing research work and areas of interest.

7. Mere fulfillment of the minimum eligibility criterion does not entitle anyone to admission into the Ph.D. program in CRDT.

Course Structure
of Ph.D. Program
in
Centre for Rural Development and Technology (CRDT)
and
Syllabi of Courses

Course Structure for Ph.D. Program in Centre for Rural Development and Technology (CRDT)
(w.e.f. AY 2023-24)

Vision

The Centre for Rural Development and Technology, IIT Indore will become a nodal hub for researchers, volunteers, practitioners, educators, and others to collaborate and facilitate rural empowerment and progress solutions. CRDT shall strive to facilitate empowering and enabling the Rural population to improve their living conditions by development and application of appropriate and people friendly technologies adopting participatory, sustainable, democratic, transparent and gender sensitive processes.

Mission

The Centre for Rural Development and Technology, IIT Indore, mission to start PhD in Rural development are the following:
• For the small-scale entrepreneurship, sustainable cottage industries, development of value-added products formation
• Access and Opportunities for Gender justice
• Developing user-friendly interfaces for launching e-platforms for various rural activities that require outreach to larger communities
• Harnessing Forest products and helping rural entrepreneurs to develop and sell their products with easy access to technology
•Technology Development in Food Processing, Food Packaging and Food Storage

Minimum Educational Qualifications (MEQs)

Masters' degree in Science or Engineering or Humanities and/or Social Sciences (Mechanical/ Metallurgical/ Electronics / Electrical / Physics / Engineering Physics/ Mathematics / Statistics/ Microelectronics / Instrumentation / VLSI Design / Embedded System / Optoelectronics /Materials Science and Engineering / Nanotechnology / Energy Science and Engineering / Laser Technology / Tele Communication / Chemistry/ Mechatronics / Microwave Engineering / Biotechnology / Biological Sciences / Structural Engineering / Construction Management / Economics / Agricultural Economics / Political Science / Development Economics / Forest Economics / Environmental Science / Geography / Instrumentation and Controls / Environmental geotechnics / Space Engineering/ Geotechnical engineering / Engineering (Any Stream) (with first division as defined by the awarding Institute/ University)

Categories of Admission

For Indian Students	For International Students
FA (Fellowship Awardee): Fellowship Awardees from the funding agencies such as CSIR/ UGC/ DBT/ NBHM/ DST/ equivalent OR equivalent Fellowship position in an externally funded project under a faculty member of CRDT. The scholarship will be as per the rules of the concerned funding agency.	**ISF (International Self-Finance)** Self-Financing Students (Full time / Part Time basis).
SW (Sponsored WITHOUT Institute scholarship): For applicants sponsored by a highly reputed R&D organization or Industry. [After completion of required coursework, either on Full Time (SWF) or Part Time (SWP) basis, with approval of the competent authority]	**ISW (International Sponsored by Industry or NGO)** (Full time / Part Time basis). (i) Industry Sponsorship (ii) NGO (Non-Government Organization) Sponsorship

DF (Defense Forces): Serving defense forces personnel WITHOUT any scholarship from the Institute (Full time / Part Time basis).	**GSW (International Sponsored by Government organization)** (Full time / Part Time basis). (i) ICCR Scholarship of Government of India (ii) Foreign Government Sponsorship	
CT (College Teacher): Permanent Employee of the sponsoring College/Institute/University WITHOUT any scholarship from the Institute (Full time / Part Time basis).		
IS (Institute Staff): Only for regular staff members of IIT Indore (on Part Time basis).		

[A]Semester-I (Autumn / Spring)

Sr. No.	Course code	Course Title	L-T-P-Credits
1	ZZ xxx	Elective-I	x-x-x-3
2	ZZ xxx	Elective-II	x-x-x-3
3	ZZ xxx	Elective-III	x-x-x-3
4	CRDT 797*/ CRDT798*	Ph.D. Seminar Course	0-2-0-2

[B] Semester-II (Spring / Autumn)

Sr. No.	Course code	Course Title	L-T-P-Credits
1	ZZ xxx	Elective-IV	x-x-x-3
2	ZZ xxx	Elective-V	x-x-x-3
3	ZZ xxx	Elective-VI	x-x-x-3
4	CRDT798*/ CRDT797*	Ph.D. Seminar Course	0-2-0-2

CRDT Courses for Elective I -VI (In addition to these courses, a student can also choose from the Ph.D. courses being offered by the other disciplines.)

Sr. No.	Course code	Course Title	L-T-P-Credits
1	RT 301/401/601	Design Thinking for Rural Applications	1-1-2-3
2	BSE 624	Bioprocess Engineering and Technology	2-1-0-4
3	CH 701	Spectroscopic Techniques.	2-1-0-3
4	EE 622 / EE 422	Digital Circuit Design	2-1-0-3
5	EE 440/640	Analog and Mixed Signal IC Design	2-1-0-3
6	BSE 628	Genomics and Proteomics	2-1-0-3
7	BSE 606	Molecular Virology and Viral Pathogenesis	2-1-0-3
8	ME 434/634	Principles of Product Design	2-1-0-3
9	ME 436/636	Dynamics and Control Systems	2-1-0-3
10	CH 711	Bio-Organic and Medicinal Chemistry	2-1-0-3
11	HS 618	Sustainability Studies	2-1-0-3

12	HS 601	Research Methods in Social Sciences	2-1-0-3
13	HS 626	Environmental and Natural Resource Economics	2-1-0-3
14	HS 600	Data Analysis and Technical Writing	2-1-0-3
15	EE 420/620	IC Fabrication Technology	2-1-0-3
16	EE 429/629	Nanotechnology and Nanoelectronics	2-1-0-3

NOTE:
1) A Ph.D. student having MTech. / M.E. / M.Phil. qualification has to do one semester coursework (with 2-3 Ph.D. level courses) Minimum number of courses will be 2 Ph.D. level courses and one Ph.D. seminar course i.e. (minimum coursework of 8 credits).
2) A Ph.D. student having MA / M.Sc. or equivalent qualification has to do 6 to 8 Ph.D. level courses of at least 3 credits each and 1-2 Ph.D. seminar courses of at least 2 credits each. The minimum number of courses will be 6 Ph.D. level courses and one Ph.D. seminar course (minimum coursework of 20 credits).

* Ph.D. Seminar course can be taken either in Autumn or in Spring Semester or both as suggested by the Faculty Advisor/ Thesis Supervisor.