



Annexure-II

INDIRA GANDHI INSTITUTE OF TECHNOLOGY
SARANG, DHENKANAL-759146
(An Autonomous Institute of Govt. of Odisha)

No. IGIT/PGS&R-13

Dt-22/05/2023

ADVERTISEMENT FOR ADMISSION TO Ph.D PROGRAMME IGIT SARANG.

Indira Gandhi Institute of Technology, Sarang invites applications for admission into Ph.D. full time regular programme offered by the following Departments under IGIT (Autonomy).

Sl. No	PROGRAMME	DEPARTMENTS
1	Ph.D. in Engineering	Chemical Engineering (CH), Civil Engineering (CE), Computer Science and Engineering (CM), Electrical Engineering (EE), Electronics & Telecommunication Engineering (ET), Mechanical Engineering (ME), Metallurgical and Materials Engineering (MT).
2	Ph.D. in Science	Chemistry (CY), Computer Science (CS), Physics (PH).

Interested candidates are required to download the application form available at **IGIT Sarang website** www.igitsarang.ac.in and send the filled in form with required documents by **Speed Post** so as to reach the address '**Dean PGS&R, Indira Gandhi Institute of Technology, Sarang, Dhenkanal, Odisha, PIN-759146**' on or before date **27.06.2023**. The details of eligibility and other information are also available in the website. The candidates are also required to enclose the hard copy of receipt of online fee payment through SBI collect of Rs.500/- (Rs.200/- in case of SC/ST candidates) with the filled-in application form. The envelope containing the application form must be super scribed as "**Application for Ph.D programme-2023 Department of-----**". Authority reserves the right to accept/reject any or all applications or entire selection process without assigning any reason thereof.

Sd/-
DIRECTOR

Copy to :

- 1) A.O. for information and necessary action.
- 2) Prof. G.Ghosh, I/c Institute website for information and necessary action.

ADMISSION INTO Ph.D. PROGRAMME-2023

INFORMATION TO CANDIDATES

Applications are invited for admission into various Ph.D Programmes offered by IGIT, Sarang in the following Department/Specialization as per existing vacancies.

Sl. No.	Streams	Disciplines/Departments	Specialization
1	Engineering	Chemical Engineering (CH)	Mineral Processing, Process Optimization, Pollution Monitoring and Control, Carbon Dioxide Capture, Fluidization, Adsorption Surface Coating Technology, Polymer Composite. Waste Water Treatment, Adsorptive Removal of Pollutants
2		Civil Engineering (CE)	Transportation Engineering, Highway Engineering, Geotechnical Engineering, Environmental Engineering and Structural Engineering
3		Computer Science & Engineering (CM)	IOT, Big-Data, Big Data Analytic, Data Science, Data Warehousing, Data Mining, Image Processing, Cognitive Radio Networking, Wireless Networking, Wireless Sensor Network, Cloud Computing, Cognitive Science, Time Series Prediction
4		Electrical Engineering (EE)	Power System Engineering, Electrical Machines & Drives, Power Electronics, Energy System Engineering, Control System Engineering, Signal Processing, Image Processing
5		Electronics & Telecommunication Engineering (ET)	Optical Communication/Network, Wireless Communication/Network, Optical Wireless Communication, Free Space Optics, Soft Computing, Optimization Techniques, Internet of Things, Security in Optical Communication, Security in Wireless Communication, Security in IOT, Vehicular Adhoc Network, Nano Photonic Devices, Machine Learning
6		Mechanical Engineering (ME)	Machine Design, Production Engg. Industrial Engg, Thermal Engg.
7		Metallurgical & Materials Engineering (MT)	Metallurgical & Materials Engineering, Industrial Metallurgy

8	Science	Chemistry (CY)	Nanoscience & Nanotechnology, Industrial Chemistry, Applied Chemistry, Environmental Chemistry, Chemical Engineering, Metallurgical and Materials Engineering.
9		Computer Science (CS)	IOT, Big-Data, Big Data Analytic, Data Science, Data Warehousing, Data Mining, Image Processing, Cognitive Radio Networking, Wireless Networking, Wireless Sensor Network, Cloud Computing, Cognitive Science, Time Series Prediction
10		Physics (PH)	Cosmology, Nuclear Physics, Optical Materials

N.B.

1. Number of admissions may depend on availability of specialization and suitable meritorious students with research bent of mind.
2. The authority reserves the right to accept/reject any or all the applications of the entire selection process without assigning any reason thereof.

IMPORTANT DATES

Opening date of advertisement: - Dt. 25.05.2023

Last date of receipt of hard copy of application form:- Dt. 27.06.2023

Sending of received application forms to Departments by Dean PGS&R section:- Dt.30.06.2023

Last date of scrutinized forms to be received from Departments by Dean PGS&R section:- Dt.12.07.2023

Display of the list of eligible candidates for written test/interview on Institute Website

www.igitsarang.ac.in:- Dt. 16.07.2023

Date of entrance test /interview:- Dt. 26.07.2023 10.00 AM onwards

Display of selected candidates for admission:- by Dt. 28.07.2023

Letter to selected candidates for joining Ph.D. programme (also on Institute Website www.igitsarang.ac.in): by Dt. 31.07.2023

Reporting of candidates in the Institute: - Dt. 08.08.2023

Submission of filled in Enrollment Forms (IGIT/Ph.D/05) by the reported candidates to Dean PGS&R section:- 14.08.2023

Date of Enrollment:-18.08.2023

DSC formation and Course Work assignments:- 25.08.2023

Application Fee:- General category applicant:- Rs 500/-

SC/ST category applicant:- Rs 200/-

Mode of Payment: Through SBI collect of IGIT Sarang under the category Ph.D Programme Fees.

Eligibility Criteria

The following are the required educational qualifications for admission into Ph.D Programmes

Sl. No.	Disciplines	Requisite Academic Qualification
1	Chemical Engineering (CH)	M.Tech in Chemical / Petroleum and Petrochemical/ Polymer/ Environmental / Metallurgical & Materials / Ceramic / Mechanical / Biochemical / Mining Engineering/ Nanotechnology/ Biotechnology / any other relevant branch of Engineering and Technology.
2	Civil Engineering (CE)	M.Tech in Civil Engineering/ Environmental Engineering/ Naval Architecture & Ocean Engg/ Aero Space Engg/ Building Science & Technology/ Geotechnical Engineering/ Structural Engg./ Transportation Engineering/ Highway Engineering/ Environmental Science & Engineering/ Mining/ Mechanical/ Agricultural/ Chemical Engineering/ Construction Technology and Management.
3	Computer Science & Engineering (CM)	M.Tech in Computer Science & Engg./ Information Technology/ Computer Science & Information Security
4	Electrical Engineering (EE)	M.Tech in Electrical Engg./ Electrical & Electronics Engg./ Power Electronics & Drives/ Power System Engineering/ Industrial Power Control and Drives/ Energy System Engineering.
5	Electronics & Telecommunication Engineering (ET)	M.Tech in Electronics & Instrumentation Engg./ Electronics & Telecommunication Engg/ Electronics & Communication Engg./ Electrical and Electronics Engg./ Electronics & Electrical Engg./ Wireless Communication Technology, /Applied Electronics & Instrumentation
6	Mechanical Engineering (ME)	M.Tech in Mechanical Engineering/ Production Engineering/ Manufacturing Science & Engg./ Industrial Engg./Metallurgy & Materials Engineering/ Power Plant Engg./ Thermal Engineering/ Mechanical System Design/ Energy Conservation and Management / Machine Design / Cryogenic / Mechatronics / Robotics / Mechanical Vibrations / Automobile / Manufacturing / Industrial Management / Aerospace/ Aeronautical Engineering / Composites / Tribology / Fluid Flow and Heat Transfer/ Metallurgical and Materials Engg.
7	Metallurgical & Materials Engineering (MT)	M.Tech in Metallurgical & Materials Engineering/ Industrial Metallurgy/ Metallurgy /Ceramic / Chemical /Mechanical / Production / Manufacturing Engineering or Materials Engg.
8	Chemistry (CY)	M.Sc./M.Phil in Chemistry/ Physics/ Biochemistry/ Biotechnology/ Nanoscience & Nanotechnology/ Bioinformatics/ Industrial Chemistry/ Applied Chemistry/ Environmental Chemistry/ Food Science & Technology/ Nutrition or M.Pharm or M.Tech in Chemical/ Ceramic/ Metallurgical and Materials Engineering / Biotechnology.

9	Computer Science (CS)	MCA or M.Sc. in Computer Science/ Information Technology.
10	Physics (PH)	M.Sc./M.Phil in Physics or M.Sc. / M. Phil in any branch of Science with Mathematics and Physics at B.Sc. level.

Eligibility criteria for Ph.D. programme

Ph.D. programme (Engineering)

- i) M.Tech/M.E/M.Sc.(Engg) in relevant discipline with at least 60% marks in aggregate (or equivalent CGPA as per AICTE norms if the conversion formula is not provided by the concerned University/Institute) at both B.Tech and M.Tech level from an Institute/Institute recognized by AICTE/UGC/Central Government.
- ii) Faculty members employed permanent positions of IGIT, Sarang having M.Tech in relevant discipline from an Institute/Institute recognized by AICTE/UGC/Central Government.
- iii) Guest Faculty members of IGIT, Sarang having M.Tech in relevant discipline from an Institute/Institute recognized by AICTE/UGC/Central Government.
- iv) Non-Teaching staff members employed on permanent positions of IGIT, Sarang for a period of at least 08 years out of which 03 years in existing post with M.Tech in relevant discipline with at least 60% marks in aggregate (or equivalent CGPA as per AICTE norms if the conversion formula is not provided by the concerned University/Institute) at M.Tech level from an Institute/University recognized by AICTE/UGC/Central Government.
- v) A relaxation of 5% of marks, from 60% to 55%, or an equivalent relaxation of grade, may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-abled candidates as per the decision of the UGC from time to time, or for those who had obtained their Master's degree prior to 19th September, 1991. The eligibility marks of 60% (or an equivalent grade in a point scale wherever grading system is followed) and the relaxation of 5% to the categories mentioned above are permissible based only on the qualifying marks without including the grace mark procedures.

Ph.D. programme (Science)

- i) Master's Degree holders or a professional degree declared equivalent to the Master's degree by the corresponding statutory regulatory body, with at least 55% marks in aggregate or its equivalent grade 'B' in the UGC 7-point scale (or an equivalent grade in a point scale wherever grading system is followed) or an equivalent degree from a foreign educational Institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country for the purpose of assessing, accrediting or assuring quality and standards of educational institutions.
- ii) A relaxation of 5% of marks, from 55% to 50%, or an equivalent relaxation of grade, may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/ Differently-abled candidates as per the decision of the UGC from time to time, or for those who had obtained their Master's degree prior to 19th September, 1991. The eligibility marks of 55% (or an equivalent grade in a point scale wherever grading system is

followed) and the relaxation of 5% to the categories mentioned above are permissible based only on the qualifying marks without including the grace mark procedures.

- iii) Candidates possessing a Degree considered equivalent to M.Phil. Degree of an Indian Institution, from a Foreign Educational Institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country for the purpose of assessing, accrediting or assuring quality and standards of educational institutions.
- iv) Faculty members employed on permanent positions of IGIT, Sarang having M.Phil/M.Sc./MCA/MA in relevant discipline from an Institute or Institute recognized by AICTE/UGC/Central Government.
- v) Guest Faculty members of IGIT, Sarang having M.Phil/M.Sc./MCA/MA in relevant discipline from an Institute or Institute recognized by AICTE/UGC/Central Government.
- vi) Non-Teaching staff members employed on permanent positions of IGIT, Sarang for a period of at least 08 years out of which 03 years in existing post with M.Phil/M.Sc./MCA/MA in relevant discipline with at least 55% marks in aggregate (or equivalent CGPA) from an Institute/University recognized by AICTE/UGC/Central Government.

SELECTION CRITERIA

1. All categories of candidates except the category 7 need to undergo the process of selection through the Departmental Academic Committee (DAC) on the basis of overall academic career, written test and interview. The candidates who have qualified GATE/NET/Inspired fellowship (DST)/Teacher fellowship (UGC) (category 2) are exempted from the Written Test and they will be given preference in the selection of Ph.D. admission. They are required to appear only interview before DAC to assess their research aptitude, ability to work in a team, subject interest and availability of Supervisors, facilities in the Department and research focus before final selection. The General/SC/ST candidates who have not qualified NET/GATE/Inspired Fellowship (DST)/ Teacher Fellowship (UGC) and other fellowships from Govt. agencies shall have to go through the selection process, which comprise of three components as follows:

1	Written Test Written test (multiple-choice Questions) will be of 01 hours duration.	100Marks
2	Career Marks	60Marks
3	Interview	40Marks

The qualifying mark in written test is 50% to appear the interview. Further, a candidate should secure a minimum of 50 marks out of the total marks of 100 (career-60 marks and Interview-40 marks) for final selection.

2. Terms and Conditions for non teaching staff for seeking permission to join the Ph.D programme.
 - (i) A member of Non-Teaching staff seeking permission to join the Ph.D. programme must hold permanent positions of IGIT, Sarang for a period of at least 08 years out of which 03 years in existing post with M.Tech.in relevant discipline with at least 60% marks in aggregate (or equivalent CGPA as per AICTE norms if the conversion formula is not provided by the concerned University/ Institute) at M.Tech level from an Institute/ University recognized by AICTE/UGC/Central Government.
 - (ii) The employee must be engaged in research, as a part of his normal duty so that his work output can qualify for the degree of Ph.D. Study towards Ph.D. cannot be done on a part time basis outside the working hours of the institute.
 - (iii) Application for administrative permission to join a Ph.D programme by a member of non-teaching staff must be submitted to the Director through the HOD of concern Department. While submitting the application he/she must give an undertaking to the effect that he/she will abide all the rules and regulations.
 - (iv) Administrative permission by the Director for pursuing Ph.D programme does not constitute academic approval for admission.
 - (v) The application will be examined by the DAC of the Department in which the candidate wants to be enrolled. The committee will interview the candidate to ascertain his suitability for the programme.
 - (vi) Every application for admission under this category shall be examined by DAC taking in to account whether the proposal for joining the programme for which permission is sought for arises out of genuine interest and ability and whether the normal job assignment of the applicant sufficiently overlap with the proposed research programme. The Director on behalf of Academic Council, considering all the aspects and merits of the case, shall give the final approval.
 - (vii) The members of the non-teaching staff applying for PhD programme must satisfy the minimum qualification requirement as mentioned in eligibility criteria and should undergo the process of selection through academic career, written test and interview.

STUDENT CATEGORY

1. The various categories of candidates (with or without financial support) mentioned below are eligible for submitting application for PhD programme provided they satisfy the eligibility criteria and qualification requirements as given in Section 3.1/3.2 & Appendix-II of IGIT Ph.D. guidelines under autonomy.

- (i) Category - 1 : Full time students with Institute Fellowship/Assistantship (Institute Scholar)
- (ii) Category – 2 : Full time students with External Fellowship (UGC/CSIR etc.)
- (iii) Category –3 : Full time students without Fellowship (Self-financed/Self supported)
- (iv) Category – 4 : IGIT faculty members

- (v) Category – 5 : IGIT Non-Teaching staff
- (vi) Category –6 : Project Scholars (JRF/SRF/RA etc.) or Project Staff members.
- (vii) Category – 7 : QIP and NDFScholars
- (viii) Category –8 : Sponsored students (Institute/ Research/ Organization/ Industry)
- (ix) Category-9 : IGIT Guest faculty members.

The Ph.D students under categories 1, 2, 6 & 7 have to take 10 hours of teaching load per week and assist in research and consultancy work.

2. Unlike other academic programmes, mere possession of required degrees and a superior academic record do not guarantee admission of a student to the Ph.D programme. Apart from academic record, the Departmental Academic Committee (DAC) will take into consideration the research aptitude, ability to work in a team, subject interest, availability of supervisors, facilities in the department and the research focus while selecting candidates to the Ph.D programme. The composition of Departmental Academic Committee (DAC) is given in Appendix-III.
3. Research students (JRF, SRF, RA) of Government R&D Laboratories (DST, DAE, ISRO, DBT, CSIR, DOS, DRDO and similar research organizations) who are not entitled to award their own degrees engaged in full time research can be enrolled under category 2. They will need to spend at least one semester for fulfilling the course work requirements in IGIT, Sarang while availing the fellowship from the parent organization.
4. Candidates employed as SRFs/JRFs/RAs or as full time Research Engineers/Officers in sponsored projects of the IGIT, Sarang may be admitted to the Ph.D programme under category 6 as project scholars. They need to obtain permission from Director through Principal Investigator, Dean, FARC and Dean PGS&R for admission. The Project should have tenure of at least 18 months beyond the date of admission of the candidate to the Ph.D programme. They also have to satisfy the minimum educational requirement and will undergo selection procedure like students of other categories. On termination of project, their status will be full time students without scholarship, unless offered another type of scholarship/ fellowship/ assistantship.
5. Candidates seeking admission to Ph.D programme under category 7 as QIP and NDF scholars, selected through QIP (Quality Improvement Programme) and National Doctoral Fellowship Programme of AICTE, Government of India respectively may be directly admitted to the Ph. D. programme of the Institute and once admitted, they have to follow the Institute Ph. D. guidelines.
6. The Institute may admit persons who are employed in other organizations (Institute/research organizations/Industries) to Ph.D programme of any discipline under category 8 as sponsored students. Such candidates should have the following:
 - (i) These candidates must have eligibility criteria as specified in Para 3.1/3.2
 - (ii) These candidates must have a total of minimum 2 years full time experience in the sponsoring organization. The candidate must produce the evidence of their work experience along with the application form.
 - (iii) Intending sponsored candidates must submit their applications in the prescribed form through their employer's with suitable endorsement.
 - (iv) Intending sponsored candidates will undergo selection procedure like other students.

- (v) The sponsored candidates are normally required to stay in the Institute till completion of assigned work and submission of the thesis. However, in special case, their residential requirement can be reduced to at least six months in order to complete all the course works assigned to them.

The selected sponsored students must submit the relieve order from their parent organization at the time of admission in order to fulfill minimum residential requirement.

RESERVATION

Reservation for candidates in PhD admission belongs to SC/ST/Physically Challenged/Disabled candidates are carried out as per UGC guideline/Govt. rule. All departments, while selecting the Ph.D. scholars must follow the clause No.5.13 of IGIT Ph.D. guidelines under autonomy.

SUPERVISOR FOR PhD REGISTRATION

1. All candidates for Ph.D. degree are required to carry out their research work under the guidance of ONE/TWO supervisors, to be appointed by the Academic Council or Dean, PGS&R on its behalf, on recommendation of the Departmental Academic Committee (DAC). Ordinarily the DAC will recommend one Supervisor. However, in case of inter- disciplinary research (within the same department or across two departments) a second supervisor may be appointed.
2. When there are two supervisors, one of them will be called the Principal Supervisor. Ordinarily the Principal Supervisor will be a faculty member of the registering department. However, in deserving cases the DAC may recommend a faculty member of another department of the IGIT as Co-Supervisor. In such case both supervisor and co-supervisor will be given equal weightage.
3. Both supervisors shall be regular faculty of this Institute with Ph.D degree or Principal Supervisor shall be regular faculty of this Institute and Co-Supervisor may be chosen from the collaborative Institute/Institute/Research Organizations approved by the Academic Council of the institute.
4. All regular faculties having Ph. D. degree with minimum five publications in SCOPUS/SCI indexed journal can be a supervisor/co-supervisor.
5. The allocation of the Supervisor(s) for a selected student shall be decided by the DAC in a formal manner depending on the number of students per faculty member, available specialization among the faculty supervisors, and the research interest of the student as indicated during interview by the student. The allotment/allocation of Supervisor shall not be left to the individual student/ teacher.

SUBMISSION OF COMPLETED APPLICATION FORM

The interested candidate shall fill the application form (IGIT/Ph.D/01) downloading from the Institute website and they are required to send the printed signed copy of the application form along with required documents with fee receipt (Rs. 500 for General category and Rs. 200 for SC/ST category candidates) by **speed post** only so as to reach the office of the **‘Dean PGS&R, Indira Gandhi Institute of Technology, Sarang, Dhenkanal, Odisha, PIN-759146’** on or before date **27/06/2023**. The envelope containing the application should be superscribed as **“Application for PhD Programme 2023, Department of**”

GENERAL INSTRUCTION

1. Candidates applying for more than one Department are required to apply separately
2. Regular employees of IGIT must enclose the administrative permission from the Head of the Institution
3. Project staff and fellows must enclose administrative permission from Director through DEAN FARC. The project must have tenure of at least 18 months beyond the expected date of joining in the PhD.
4. In case of the candidate belonging to category 8, part-II of the application form filled up by the sponsoring Authority must be sent.
5. The candidate is also required to give an undertaking in non-judicial stamp paper to complete all the academic requirements of the Institute related to the PhD programme while working at his/her parent Organization at the time of admission.
6. Along with the filled in application form candidates required to send certificates and mark sheets (from 10th onwards)/caste certificate (if applicable), no objection certificate form employer (if applicable).
