



INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE (IACS)

A Deemed to be University under de novo category

Jadavpur, Kolkata-700032

Admission notice for the PhD program in the Spring Semester 2025
(Session starting from January 2025)

Advertisement No. **Acad/ PhD/Spring Sem-2025**

Date: 07.10.2024

Applications are invited for regular full-time PhD students to the PhD Programme in Spring Semester of 2025 under different Schools, namely Applied and Interdisciplinary Sciences, Biological Sciences, Chemical Sciences, Material Sciences, Mathematical and Computational Sciences and Physical Sciences, of IACS (A deemed to be University).

Eligibility:

1. 55% or equivalent in masters is mandatory for general candidates, while for SC/ST/OBC (non-creamy layer)/Differently-abled and other categories 50% marks is necessary.
2. Minimum eligibility criteria as per UGC rules. Qualification and eligibility requirements for each School are given separately (*vide infra*).
3. Selection of the regular full-time students will be done on the basis of their academic record, their performance in the appropriate national level examination, and finally, their performance in the written test and/or interview as decided by the respective Schools.
4. Relaxation of the selection criteria for the candidates belonging to SC/ST/OBC (non-creamy layer)/Differently-abled and other categories will be levied according to the norms of UGC and Government of India.
5. Merely satisfying the eligibility criteria does not guarantee that a candidate will be shortlisted for interview.

Fellowship: As per IACS/CSIR/UGC/INSPIRE rules.

Age limit: Should be below 28 years on the closing date of application. Age relaxation is applicable as per Government of India rule.

Nationality: The applicant must be an Indian citizen.

Selection Procedure:

1. Applicants will be shortlisted on the basis of merit by different Schools. Only shortlisted candidates will be informed via email and called for a written test and/or interview (to be decided by the School) for the final selection. IACS holds full right of choosing a candidate and even not selecting any, in case suitable applications are not received.
2. Vacancies given for each School are based on number of positions available in individual research groups in different research areas. Selection depends on the past academic record, performance in examination/interview by the School and also the availability of posts in particular research areas as opted by the shortlisted candidate.

Application Procedure: Applications have to be made online at <http://phdapplicationiacs.iacs.res.in> Any queries may be sent to phdcell_iacs@iacs.res.in. The details of the online application and its procedure are given in the IACS website. Exact date and time of Admission Test/or Interview for each School will be announced on the IACS website.

Last Date of Submission of Applications: November 17, 2024

Tentative date of interview: 02-13 December, 2024 which is subject to change according to the decision of IACS.

For further information in this regard, please contact Academic Office (Phone: 24734971; Extn: 2215, Email: phdcell_iacs@iacs.res.in).

Application/Examination Fees: Rs. 1200/- (Rs. 600/- for SC/ST candidates) will have to be transferred electronically to the account of IACS (Name of the Account: Indian Association for the Cultivation of Science University, A/C no: 37739525415, State Bank of India, Jadavpur University Branch, Branch Code: 0093. IFSC: SBIN0000093). The electronic transfer reference number should be mentioned in the application form.

Mode of Payment: Payment can be made through either of the following options:

- 1) Directly by NEFT bank transfer if an applicant can avail Online Banking facility;
- 2) By depositing the amount at any SBI Counter having CBS facility.

Fees to be paid during admission: One time admission fee (Rs. 15000/-) and caution deposit (Rs. 10000/-) to be paid during the time of admission. The rest of the annual fees for the first year to be paid within 6-months from the date of joining. The fee structure and timeline for payment of fee for the subsequent years are given at the IACS website.

Scholarship: All regular PhD students who join are eligible for scholarship from IACS/CSIR/UGC/INSPIRE as per rules.

Details of the PhD positions and the qualification and eligibility details for the different Schools are given below.

School of Applied and Interdisciplinary Sciences (SAIS)

No. of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
1	Nano/Micro Fabrication for Device Applications	Master's degree M.Sc. in Physics with CSIR/UGC NET-JRF, INSPIRE Fellowship, or GATE qualification.
1	Perovskite Microcrystals for Optoelectronic Devices	Master's degree in chemistry or physics with CSIR/UGC NET-JRF, INSPIRE Fellowship, or

		GATE qualification.
1	Organic Optoelectronics based on Molecular Assemblies	M.Sc. in Chemistry (Inorganic or Physical specialization). Candidates with fellowship will be preferred.
1	Ferroelectric Nanocrystals for Memory Applications	M.Sc. in Physics (Solid State Physics/Materials Science/Electronics specialization). Candidates with fellowship will be preferred.
2	Organic Optoelectronic Devices: Memory Devices for Visual Sensory Adaptation	M.Sc. in Physics/ Electronics/Materials science with CSIR/UGC- JRF/Inspire Fellowship
2	Synthesis of organic conjugated chromophores for optoelectronics device applications	M.Sc. in Chemistry with CSIR/UGC- JRF/Inspire Fellowship
1	Design and Synthesis of Luminescent Monomers / Polymers	MS / M. Sc. in Chemistry with CSIR-NET (JRF) or other fellowships.
1	Rheological Properties of Small- and Macromolecular Networks	M. Sc. in Chemistry / Physics with CSIR-NET (JRF) or other fellowships.
1	Electrocatalysis on the Surface of Polymer Nanotubes	M. Sc. in Chemistry / Physics with CSIR-NET (JRF) or other fellowships.
1	Bioorganic and Nucleotide Chemistry	M.Sc in Organic Chemistry CSIR-NET (JRF) or GATE or other fellowships
1	Synthesis of Sustainable Inorganic Electroceramic Nanomaterials for Energy Applications	MSc. in Chemistry CSIR NET/UGC NET qualified
1	Synthesis of Bioceramic Nanomaterials for Health Applications	MSc. in Chemistry CSIR NET/UGC NET qualified
1	Micro Energy Scavenging from Functional Ferroelectric Perovskite Nanomaterials	MSc. in Physics CSIR NET/UGC NET qualified
1	Functional Luminescent Supramolecular Assemblies	MSc. in Chemistry CSIR NET/UGC NET qualified or having other fellowships

School of Biological Sciences (SBS)

No.	Broad Research Area (Subject Code)	Essential qualification
1	Molecular biology of DNA Topoisomerase, DNA damage response and development of therapeutics for breast cancer (01)	M.Sc. in any branches Biological Science (Zoology, Physiology, Molecular biology, Microbiology, Biochemistry, Biotechnology etc.) with mandatory individual fellowship form NET/JRF (CSIR or UGC). DBT/JRF.
2	Biological Physics (02)	M.Sc./B. Tech in Physics/Chemistry/Biology/ Biophysics or Biochemistry with NET/GATE/equivalent qualification
2	Host-pathogen interactions (03)	M.Sc. in Biology with NET/GATE/equivalent qualification
1	Role of environment on neuronal cell network formation and activity (04)	M.Sc. in chemistry/biophysics with individual fellowship form NET/JRF (CSIR or UGC), DBT/JRF.

2	Splicing mechanism in eukaryotic cell/ Cytoskeletons in mitochondrial dynamics (05)	M.Sc. in Chemistry/Biochemistry/Biological Sciences with NET/GATE/equivalent qualification
1	Nanomedicine and Drug Delivery in Theranostics (06)	M.Sc. in Chemistry/Biochemistry/Allied Subject domain with Fellowship (CSIR/UGC/DST-INSPIRE/DBT/others)
2	Cancer Biology/ Cancer Immunology/ Organic bioactive molecules synthesis (07)	M.Sc. in any discipline of Biological Science/ MSC in Chemistry (desirable Organic Specialization) with Fellowship (CSIR/ UGC/DST-INSPIRE/DBT/others)
1	Peptide based Biomaterials in health care	MSc in Chemistry/Biochemistry/allied subject domain with fellowship in CSIR/UGC/DST-Inspire/Others

School of Chemical Sciences (SCS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
3	Inorganic Chemistry	M.Sc in Chemistry NET -UGC/CSIR or Inspire fellowship
2	Synthetic Organic Chemistry (Natural Product Synthesis)	M.Sc. with JRF fellowship (NET- CSIR/UGC)
2	Bioinorganic Chemistry	JRF (CSIR/UGC)
3	Theoretical/computational chemistry	CSIR/UGC/INSPIRE/GATE or equivalent and M. Sc. in Chemistry/Physics
1/2	Biomimetic Inorganic Chemistry and Bioinspired Catalysis	MSc in Chemistry (minimum 55% marks or equivalent) and NET qualified with CSIR or UGC fellowship
2	a) Asymmetric catalysis with NHC b) Organic synthesis via photoredox catalysis	Highly motivated candidates with UGC/CSIR JRF
3	Synthetic Carbaporphyrinoids	MSc in Chemistry (CSIR/UGC-JRF, INSPIRE FELLOWSHIP)
2	Spectroscopy of biomolecules	CSIR, UGC JRF and GATE
2	Biophysics and molecular biology	MSc in Biotechnology or Biochemistry or Microbiology or Physiology with CSIR/UGC/INSPIRE fellowships
1	Synthetic methodologies	MSc in Organic Chemistry with CSIR/YGC/INSPIRE

School of Material Sciences (SMS)

Number of vacancies	Broad Research Area (Subject Code)	Essential Qualifications
01	Quantum Dots: Synthesis and Study of Optical Properties	MSc in Chemistry with NET CSIR /UGC
01	Atomic Resolution Microscopic Imaging and Crystal Analysis	MSc in Physics/Chemistry with NET CSIR/UGC
01	Nanobiotechnology	MSc in Chemistry
02	Controlled defect engineering and heterostructuring in 2D-Materials for hydrogen generation and photodetector applications	M.Sc/MS in Physics/Chemistry with NET-JRF/INSPIRE

School of Mathematical and Computational Sciences (SMCS)

Number of vacancies	Broad Research Area (Subject Code)	Essential qualification
2	Statistical Mechanics/Active Matter Systems/Biophysics of Cell (Projects based on Computation and Mathematical modeling. Require knowledge of programming in C/C++/Fortran etc.	M.Sc. in Physics/Computer Science with CSIR/UGC fellowship.
1	Natural Language Processing/ Large Language Models/ Vision Language Models/ Generative Models in Computer Vision	Master's in Computer Science or relevant subjects (with fulfilment of pre-requisite courses). Excellent programming skills and prior exposure to Machine Learning. External fellowship like UGC NET JRF is required.

School of Physical Sciences (SPS)

Number of vacancies.	Broad Research Area (Subject Code)	Essential Qualifications
2	Experimental Condensed Matter Physics- Photophysical properties of 2D semiconductors	CSIR-NET/ UGC-NET/ provisional INSPIRE fellowship/GATE/JEST
2	Experimental Condensed Matter Physics- Caloric materials for solid-state cooling; Multiferroic thin films and heterostructures	CSIR-NET, INSPIRE

2	Electronic and magnetic properties of topological materials.	CSIR-NET, UGC-NET, INSPIRE
1	Experimental Condensed Matter Physics – Device physics, Graphene-like semiconductors, Two-dimensional magnetism,	CSIR-NET-JRF / UGC-NET-JRF, INSPIRE – Provisionally Selected, GATE - , JEST , UGC-NFSC (National Fellowship for Scheduled Caste students)
1	Many-body Physics: Non-equilibrium dynamics, quantum computation and statistical physics	CSIR

PhD Coordinator