INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

A Deemed to be University under de novo category

Jadavpur, Kolkata-700032

Advertisement No. **Acad/ PhD/Spring Sem-2022** Date: 17.11.2021

Applications are invited for regular full-time PhD students to the PhD Programme in Spring Semester of 2022 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). A candidate may apply to maximum two Schools by making appropriate selection in the Application Form.

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 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 the Schools. Only shortlisted candidates will be communicated via email and called for a written test and/or interview (to be decided by the School) towards 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: Applicants may send their application form to the Academic Office, IACS (**phdcell_iacs@iacs.res.in**) along with the filled up excel file, both of which are available at http://iacs.res.in/phd-student.html by clicking "Application Form for admission to the PhD program" and "Synopsis of Applicant for admission to PhD program" respectively. Both documents should be send together by email (**phdcell_iacs@iacs.res.in**) to the academic office by **December 15, 2021** with the subject line as "**PhD Program, IACS – Spring Semester 2022**".
Exact date and time of Admission Test/or Interview for each School will be announced on the IACS website.

Last Date of Submission: December 15, 2021

Tentative date of interview: 02 January, 2022 to 15 January, 2022 which is subject to change according to the decision of IACS.

For further information in this regard, please contact Academic Office (Phone: 24734971; Extn: 2219,. Email: phdcell_iacs@iacs.res.in).

Application/Examination Fees: Rs. 1200/- (Rs. 600/- for reserved 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:

Courses	Admission Fee (Rs)	Tuition Fee (Rs) Per Annum	Other Academic Fee (Rs)	Caution Deposit (Rs)	Students' Emergency Fund (Rs)	Contributory Medical Scheme (Rs) per Annum	Total fees to be paid at the time of Admission (Rs)
PhD (Direct Admission) (General/OBC Candidate)	15000	13800	5000	10000 (Refundable on completion of curriculum)	1000	3000	**47800**
PhD (Direct Admission) (SC/ ST Candidate)	15000	0	5000	10000 (Refundable on completion of curriculum)	1000	3000	**34000**

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)

Number of vacancies	Broad Research Area **(Subject Code)**	Essential Qualifications
1	Photosensors/photodetectors using perovskite nanocrystals **(SAIS01)**	M.Sc. in Physics (Specialization: Solid State Physics)
1	Synthesis and characterization of nanocrystals **(SAIS02)**	M. Sc. in Chemistry (Specialization: Inorganic Chemistry)
1	Oncoimmunology **(SAIS03)**	M. Sc in Biology with CSIR-NET /ICMR fellowship.
1	Structure-property relations of polymers **(SAIS04)**	M. Sc. in Chemistry with CSIR-NET (JRF) or other fellowships.
1	Supramolecular Catalysis **(SAIS05)**	M. Sc. in Chemistry (Specialization: Organic Chemistry) with CSIR-NET (JRF) or other fellowships
1	Peptide-polymer conjugates towards functional biomaterials **(SAIS06)**	M. Sc. in Chemistry (Specialization: Organic Chemistry) with CSIR-NET (JRF) or other fellowships
1	Nanofabrication for energy harvesting devices **(SAIS07)**	M.Sc. in Physics / Chemistry with CSIR-NET (JRF) or other fellowships
1	Design and fabrication of optoelectronic devices **(SAIS08)**	M.Sc. in Physics with CSIR-NET (JRF) or other fellowships
1+1	Optoelectronic Devices: OLEDS / LASER devices and physics of various photophysical properties **(SAIS09)**	M. Sc. in Physics / Chemistry with CSIR-NET (JRF) or other fellowships
1	Novel materials design, development and photophysical characterization of TADF materials **(SAIS10)**	M. Sc. in Chemistry with CSIR- NET (JRF) or other fellowships

School of Biological Sciences (SBS)

Number of vacancies	Broad Research Area **(Subject Code)**	Essential qualifications
1-2	Peptide based soft materials in health care **(SBS01)**	M.Sc. In Chemistry/Biochemistry, material science/applied and interdisciplinary science. The candidate must have own fellowship (CSIR/UGC and others)
1	Nanobiotechnology (Nanoscale biosensors and bioelectronics), Biophysics (Single molecule level structural biology) and Biophysical Chemistry (Biomolecular interactions) **(SBS02)**	M.Sc. in Biotechnology, Biochemistry, Biophysics, Chemistry; Fellowship: CSIR/ UGC/DBT/DST-INSPIRE/Institute
1	Molecular Biology of DNA repair in Cancer **(SBS03)**	1. MSc in Biochemistry, Genetics, Molecular Biology, Zoology, Physiology, or Biotechnology. 2. The candidate must have a JRF fellowship either from CSIR, UGC or DBT. 3. Exposure to molecular biology laboratory
1	Infection Biology **(SBS04)**	M.Sc. in any discipline of Biology (NET/ GATE qualified)
1+1	Biology (Cancer/coagulation Biology) and Organic Chemistry (Synthesis of Bioactive molecules) **(SBS05)**	MSc in Biology /Organic Chemistry (The candidate must have own Fellowship)
1	Self-Assemblies in Chemical Biology **(SBS06)**	M.Sc. In Chemistry/Biochemistry; The candidate must have own fellowship (CSIR/UGC and others)

School of Chemical Sciences (SCS)

Number of vacancies	Broad Research Area **(Subject Code)**	Essential Qualifications
1+1	Supramolecular materials **(SCS01)**	M.Sc. In Chemistry with UGC/CSIR /DST-INSPIRE
1+1	Polymer Chemistry **(SCS02)**	M.Sc. In Chemistry with UGC/CSIR /DST-INSPIRE
1+1+1+1+1	Organometallic Chemistry of Conjugated & Homoconjugated N/S/P-Confused Porphyrinoids **(SCS03)**	M.Sc. in Organic /Inorganic Chemistry with external fellowship (UGC/CSIR-JRF (4)) and institute fellowship (1: NET-LS &/or GATE)
1	Chemical Biology **(SCS04)**	M.Sc. In Biotechnology or Life Science with CSIR/UGC/Inspire
1+1	Chemistry of Inorganic Materials **(SCS05)**	M.Sc. In Chemistry with CSIR/UGC/ INSPIRE
1	Bioinspired Inorganic Chemistry **(SCS06)**	M.Sc. In Chemistry with UGC/CSIR
1	Physical Chemistry, Spectroscopy **(SCS07)**	M.Sc. In Chemistry with UGC/CSIR /DST-INSPIRE/GATE
1	Theoretical/ Computational Physical Chemistry **(SCS08)**	M.Sc. In Chemistry with UGC/CSIR /DST-INSPIRE/GATE
1+1	Theoretical Chemistry, Quantum Chemistry **(SCS09)**	M.Sc in Chemistry or Physics with UGC/ CSIR /DST-INSPIRE/GATE
1+1	Organic Synthesis **(SCS10)**	MSc. In Chemistry with UGC/CSIR
1+1	Chemical Synthesis of Natural Products **(SCS11)**	MSc. In Chemistry with UGC/CSIR

School of Material Sciences (SMS)

Number of vacancies	Broad Research Area **(Subject Code)**	Essential Qualifications
1	Electrochemical Energy generation/photodetectors **(SMS01)**	M.Sc. In Physics/Chemistry with CSIR/UGC/INSPIRE
1	Nanobiotechnology **(SMS02)**	M.Sc. In Chemistry with CSIR/UGC/INSPIRE
1	Optoelectronic materials and devices **(SMS03)**	M.Sc. In Chemistry/Physics with CSIR/UGC/INSPIRE

School of Mathematical and Computational Sciences (SMCS)

Number of vacancies	Broad Research Area **(Subject Code)**	Essential Qualifications
1	Computational chemical science **(SMCS01)**	M.Sc. in chemistry with external fellowship (CSIR/UGC/Inspire)
1	Image processing, machine learning, medical image processing **(SMCS02)**	Masters degree in Computer Science

School of Physical Sciences (SPS)

Number of vacancies	Broad Research Area **(Subject Code)**	Essential Qualifications
1+1	Experimental Condensed Matter Physics or Device Physics **(SPS01)**	M.Sc. in Physics with CSIR/UGC-NET, DST INSPIRE fellowship
1	Superfluidity and superconductivity **(SPS02)**	M.Sc. in Physics with CSIR/UGC NET qualification or INSPIRE fellow

1	Electrical transport and optical emission properties of oxide and sulphide thin films **(SPS03)**	M.Sc. in Physics with CSIR/UGC-NET, DST INSPIRE fellowship
1	Electro-optic properties of oxide and sulphide thin films **(SPS04)**	M.Sc. in Physics with CSIR/UGC-NET, DST INSPIRE fellowship
1	Theoretical and Computational Condensed Matter Physics: Electronic structure of Quantum Matter **(SPS05)**	M.Sc. in Physics with CSIR/UGC/INSPIRE fellowship
1+1+1	Experimental Condensed Matter Physics **(SPS06)**	M.Sc. in Physics with INSPIRE (1)/UGC-CSIR (2) fellowship
1	Experimental Condensed Matter Physics: Two-dimensional Magnetism and related devices **(SPS07)**	M.Sc. in Physics with NET (CSIR/ UGC) fellowship

Co-ordinator, PhD programme