

# INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

## *A Deemed to be University under de novo category*

Jadavpur, Kolkata-700032

Advertisement No. **Acad/ PhD/Autumn Sem-2022**

Date: 22.03.2022

Applications are invited for regular full-time PhD students to the PhD Programme in Autumn 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](mailto: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](mailto:phdcell_iacs@iacs.res.in)) to the academic office by **April 19, 2022** with the subject line as “**PhD Program, IACS – Autumn 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: April 19, 2022**

**Tentative date of interview:** During May, 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](mailto: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	<b>47800</b>
PhD (Direct Admission) (SC/ST Candidate)	15000	0	5000	10000 (Refundable on completion of curriculum)	1000	3000	<b>34000</b>

**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 ( <b>Subject Code</b> )	Essential Qualifications
1	Photosensors/photodetectors using perovskite nanocrystals ( <b>SAIS01</b> )	M.Sc. in Physics (Specialization: Solid State Physics) with CSIR-NET
1	Synthesis and characterization of nanocrystals ( <b>SAIS02</b> )	M. Sc. in Chemistry (Specialization: Inorganic Chemistry) with CSIR-NET
1	Organic Synthesis ( <b>SAIS03</b> )	M. Sc in Chemistry with CSIR-NET or other fellowships.
2	Supramolecular polymers, degradable polymers and programmed macromolecular assemblies ( <b>SAIS04</b> )	M. Sc. in Chemistry (Specialization: Organic Chemistry) with CSIR-NET (JRF) or other fellowships.
1	Nanofabrication for energy harvesting devices ( <b>SAIS05</b> )	M. Sc. in Physics/Chemistry with CSIR-NET (JRF) or other fellowships
1	Design and fabrication of optoelectronic devices ( <b>SAIS06</b> )	M. Sc. In Physics with CSIR-NET (JRF) or other fellowships
2	Optoelectronic Devices: OLEDs/LASER devices and physics of various photophysical properties ( <b>SAIS07</b> )	M.Sc. in Physics / Chemistry with CSIR-NET (JRF) or other fellowships
1	Novel materials design, development and photophysical characterization of TADF materials ( <b>SAIS08</b> )	M.Sc. in Chemistry with CSIR-NET (JRF) or other fellowships
1	Polymer and Supramolecular Chemistry ( <b>SAIS09</b> )	M. Sc. in Chemistry with CSIR-NET (JRF) or other fellowships
1	Structure-property relations of polymers ( <b>SAIS10</b> )	M. Sc. in Chemistry with CSIR- NET (JRF) or other fellowships

### School of Biological Sciences (SBS)

Number of vacancies	Broad Research Area ( <b>Subject Code</b> )	Essential qualifications
1-2	Self-assembling Peptides: From Synthesis to Application ( <b>SBS01</b> )	M.Sc. In Chemistry/Biochemistry, material science/applied and interdisciplinary science. The candidate must have own fellowship (CSIR/UGC and others) NET/INSPIRE qualified
1-2	Bio-Organic Chemistry/Biomedicine ( <b>SBS02</b> )	M.Sc. in Chemistry/Biochemistry; The candidate must have own fellowship (CSIR/UGC and others)
1+1	Biology (Cancer/coagulation Biology) and Organic Chemistry (Synthesis of Bioactive molecules) ( <b>SBS03</b> )	M.Sc. In Biology/ Organic Chemistry. The candidate must have own fellowship.
2	Cell biology/ Biophysics ( <b>SBS04</b> )	M.Sc. in Biology/Physics. The candidate must have own fellowship, CSIR/UGC and others

### School of Chemical Sciences (SCS)

Number of vacancies	Broad Research Area ( <b>Subject Code</b> )	Essential Qualifications
18	Physical Chemistry ( <b>SCS01</b> )	M.Sc. In Chemistry or Physics preferably with CSIR/UGC/INSPIRE fellowship
9	Organic Chemistry ( <b>SCS02</b> )	M.Sc. In Chemistry preferably with CSIR/UGC/INSPIRE fellowship
16	Inorganic Chemistry ( <b>SCS03</b> )	M.Sc. In Chemistry preferably with CSIR/UGC/INSPIRE fellowship

### School of Material Sciences (SMS)

Number of vacancies	Broad Research Area ( <b>Subject Code</b> )	Essential Qualifications
1	Broadband Photodetectors ( <b>SMS01</b> )	JRF Fellow with Masters in Physics/Chemistry/Materials Science/Nanoscience/Electronics
1	Photo/electrochemical Green H <sub>2</sub> generation ( <b>SMS02</b> )	JRF Fellow with Masters in Physics/Chemistry/Materials Science/Nanoscience
1	Selective Electrochemical CO <sub>2</sub> reduction ( <b>SMS03</b> )	JRF Fellow with Masters in Physics/Chemistry/Materials Science/Nanoscience/Electronics
1	Supercapacitors ( <b>SMS04</b> )	JRF Fellow with Masters in Physics/Chemistry/Materials Science/Nanoscience/Electronics
2	Nanobiotechnology ( <b>SMS05</b> )	M.Sc. In Chemistry/Biochemistry/Materials Science/Interdisciplinary Science with NET/GATE
1	Experimental Condensed Matter Physics on Quantum Materials ( <b>SMS06</b> )	M.Sc. In Physics with CSIR/UGC/INSPIRE
1	Polymer Science ( <b>SMS07</b> )	M.Tech in Materials Science, GATE qualified
2	(i) Optoelectronic materials & devices (ii) Solid state Batteries & Supercapacitors ( <b>SMS08</b> )	M.Sc. In Physics/ Chemistry with CSIR/UGC/INSPIRE

### School of Mathematical and Computational Sciences (SMCS)

Number of vacancies	Broad Research Area ( <b>Subject Code</b> )	Essential Qualifications
1	Computational study of reaction mechanisms related to material industry, atmosphere, biology and toxicology. <b>(SMCS01)</b>	M.Sc. In Physical Chemistry (CSIR/UGC qualified)
1	Natural language processing, Deep learning <b>(SMCS02)</b>	M.Sc./M.Tech in Computer Science/Mathematics & Computing/Computer Science and Engineering/Computer Science and Technology/Information Technology. NET/GATE qualified.

### School of Physical Sciences (SPS)

Number of vacancies	Broad Research Area ( <b>Subject Code</b> )	Essential Qualifications
1	Theory of superconductivity and superfluidity <b>(SPS01)</b>	M.Sc. in Physics. Only CSIR NET qualified candidates should apply.
2	Experimental condensed matter physics (low dimensional systems, magnetism, superconductivity etc) <b>(SPS02)</b>	M.Sc. in Physics with CSIR/ INSPIRE fellowship
2-3	Theoretical and Computational Condensed Matter Physics: Electronic Structure of Quantum Matter <b>(SPS03)</b>	M.Sc. in Physics with CSIR/UGC/INSPIRE/GATE (Rank < 150)/JEST (Rank<100) fellowship
2	Experimental Condensed Matter Physics (Multiferroics or Topological Insulators or Thermoelectrics) <b>(SPS04)</b>	M.Sc. in Physics with CSIR/UGC/INSPIRE fellowship
2	Condensed matter experimental physics of multifunctional semiconductors <b>(SPS05)</b>	M.Sc. in Physics with NET CSIR/ UGC/INSPIRE fellowship
2	Semiconductor Device physics, Raman spectroscopy <b>(SPS06)</b>	M.Sc. in Physics with NET CSIR/UGC

1	Experimental Condensed Matter Physics or Device Physics ( <b>SPS07</b> )	M.Sc. in Physics with CSIR/UGC-NET, DST INSPIRE
1	Experimental Condensed Matter Physics—magnetism in transition metal-based compounds and alloys ( <b>SPS08</b> )	M.Sc. In Physics with UGC/CSIR-NET/INSPIRE fellowship

**Co-ordinator, PhD programme**