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-2021 Date: May 10 May, 2021

Applications are invited for admission to the PhD Programme in Autumn Semester of 2021 under different Schools of IACS (A deemed to be University).

Eligibility:

Admission/Enrolment of every regular full-time PhD students in the PhD program of IACS University would require the following criteria to be fulfilled.

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. Only the students who qualify UGC-NET (including JRF)/UGC-CSIR NET (including JRF)/GATE/JEST/INSPIRE/equivalent national level examination conducted by Central Government Departments and their agencies and institutions, allowing entry into PhD program will be considered eligible to seek admission in the PhD program of IACS.

3. Selection of the regular full-time students will be done on the basis of their academic record, their performance in UGC-NET (including JRF)/UGC-CSIR NET (including JRF)/ GATE/JEST/INSPIRE/equivalent national level examination conducted by Central Government Departments and their agencies and institutions, allowing entry into PhD program, 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.

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: Applicants will be shortlisted on the basis of merit. In this regard, percentage of marks obtained in Bachelors (including particulars like specialization etc.) & Masters, year of passing, present status/enrolment, qualification details of NET (type of NET whether UGC or CSIR)/GATE/JEST exams including ranks, INSPIRE fellowship and qualification information in other equivalent national level examination conducted by Central Government Departments and their agencies and institutions should be mentioned in the application. 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 /met.

Application Procedure:

Applicants may send their application form to the Academic Office, IACS (**phd.application@iacs.res.in**) along with the filled up excel file (both 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"). Duly filled in applications in the prescribed format should be sent by email (phd.application@iacs.res.in) to the academic office by **11 June, 2021.** The subject line should be marked as "PhD Program, IACS – Autumn Semester 2021". Exact date and time of Admission Test/or Interview will be announced on the website.

Last Date of Submission: 11 June, 2021

Details of the desired PhD positions to be filled up by the different Schools: -

School of Chemical Sciences

Sr. No.	Broad research area	No. of students	Requirement
01.	Organometallic Chemistry of N/S/ P-Confused Porphyrinoids	4 (CSIR/UGC JRF)	M.Sc. in Chemistry
02.	Molecular Recognition, Sensing and Catalysis	1 (CSIR/UGC JRF)	M.Sc. in Chemistry
03.	Theoretical/computational chemistry and soft matter science, molecular and colloidal self-assembly/phase transitions, multiscale modeling	2(CSIR/ UGC JRF)	M.Sc. in Chemistry or Physics
04.	Theoretical and computational chemistry, electronic structure theory	1 (CSIR/UGC/GATE /INSPIRE)	M.Sc. in Chemistry/Physics/Physical Chemistry
05.	Chemical synthesis of natural products	2 (CSIR/UGC JRF)	M.Sc. in Chemistry
06.	Inorganic chemistry: structure and property	2 (CSIR/UGC/INSPI	M.Sc. In Chemistry

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07.	Theoretical/computational Physical Chemistry	2 (CSIR/UGC JRF)	M.Sc. in Chemistry/Physics
08.	(1) Beyond Born-Oppenheimer theories (2) Reaction dynamics (3) Photo-electron Spectroscopy	2 (CSIR/UGC/INSPIRE/GATE)	M.Sc. in Chemistry (Physical Chemistry)/Physics
09.	Asymmetric catalysis/method development for organic synthesis	1 (CSIR (JRF))	M.Sc. In Chemistry
10.	Physical Chemistry: Spectroscopy	3 (CSIR/UGC/INSPIRE)	M.Sc. In Chemistry/Biology
11.	Quantum Chemical Studies of Reaction Mechanism of Ground State and Excited State Chemical Phenomena & Catalysis	1 (CSIR/UGC JRF; GATE)	M.Sc. In Chemistry
12.	Biomimetic/Bioinspired Inorganic Chemistry	1 (CSIR/UGC)	M.Sc. In Chemistry
13.	Organic Synthesis, Chemical and Molecular Biology	2 (CSIR/UGC/INSPIRE)	1 M.Sc. In Chemistry 1 M.Sc. In Biology
14.	Inorganic and Bioinorganic Chemistry	1 (CSIR/UGC JRF)	M.Sc. In Chemistry
15.	Inorganic Chemistry	2 (CSIR/UGC JRF)	M.Sc. In Chemistry

School of Mathematical and Computational Sciences

Sr. No.	Broad research area	No. of students	Requirement
01.	Function theory in several complex variables and holomorphic dynamics	1 (Preferably with a NET/GATE score)	M.Sc. In Mathematics or any equivalent degree with a major in Mathematics

02.	Machine learning and its applications	1	M.Sc. Or equivalent degree in Mathematics or Computer Science. Desirable: 1. Good knowledge in data structures and algorithms 2. Strong programming background (Python) and working knowledge of deep learning concepts and libraries such as TensorFlow/ PyTorch
03.	Complex networks, machine learning, graph algorithms Student 1: Epidemiological models Student 2: Bio-NLP/Drug repurposing using NLP techniques	2	M.Sc. Or equivalent degree in Mathematics or Computer Science. Desirable: strong programming skills (C/C++/Python)
04.	Functional Analysis, Linear Algebra, Operator Theory	1 (Preferably CSIR/UGC-NET)	M.Sc. In Mathematics

School of Biological Sciences

Sr. No.	Broad research area	No. of students	Requirement
01.	Self aggregated organic particles in biocatalysis and theranostic applications	2	M.Sc. In Chemistry/Biochemistry
02.	Protein Biochemistry	1	M.Sc. in Biology/Biochemistry/Material Science/Chemistry/Applied and interdisciplinary science
03.	Cancer biology and Cell/Molecular Biology, Bioactive Molecule synthesis	2	M.Sc. in Biology/Organic Chemistry
04.	Molecular biology of DNA damage and cancer	1	M.Sc. In Biology
05.	Infection biology of pathogenic bacteria	2	M.Sc. In Biology/Biochemistry/Biotechnology

School of Applied and Interdisciplinary Sciences

Sr. No.	Broad research area	No. of students	Requirement
01.	1. Conducting polymer-based materials for energy storage 2. Synthesis of electroactive monomers, electro-polymerization and electrochromatic window	2 (CSIR/UGC)	1. M.Sc. (Chemistry, Physical) 2. M.Sc. (Chemistry, Physical/Organic)
02.	1. Interfacial technique 2. Device Characterization	2	1. M.Sc. (Chemistry, Inorganic) 2. M.Sc. In Physics
03.	Tunable biodegradable polymer assemblies, Supramolecular polymers and their catalytic activities	1 (CSIR/UGC Fellowship)	M.Sc. in Chemistry
04.	Nano-fabrication with Pervoskites and 2D materials for energy harvesting devices	2 (CSIR/UGC/GATE or other fellowship)	M.Sc. in Chemistry/Physics
05.	Photo-physics and Chemistry of Molecular Materials	1 (CSIR/UGC fellowship)	M.Sc. in Chemistry/Physics
06.	Functional Nanomaterials and thin films for energy and sensing applications	1 (CSIR/UGC NET fellowship)	M.Sc. In Physics

*Selection will depend on the performance of the student in the interview, past academic achievements of the candidates and matching of the educational background as per the desired criteria. In case of exceptional candidates, the total number of vacancies may be relaxed. If suitable candidates are not found, all vacancies may not be filled up.

**Interested candidates are encouraged to visit the School website (http://www.iacs-sais.com/) for detail information and research activities of individual research groups.

School of Physical Sciences

Sr. No.	Broad research area	No. of students	Requirement
01.	1. Experimental Condensed Matter Physics-Magnetism	2 (CSIR/UGC)	M.Sc. In Physics

	2. Experimental Condensed Matter Physics- Energy Materials		
02.	Theoretical and Computational Condensed Matter Physics: Electronic structure of Quantum Matter	3 (1 Institute fellowship, 2 CSIR/ UGC/INSPIRE)	M.Sc. in Physics
03.	Superconductivity and Magnetism	2 (CSIR)	M.Sc. in Physics
04.	Experimental Condensed Matter Physics- Magnetic 2D materials and their applications	2 (CSIR)	M.Sc. in Physics
05.	Particle Physics Phenomenology	2 (CSIR/ UGC)	M.Sc. in Physics
06.	Quantum optics, ultracold atoms and molecules	1 (CSIR/UGC NET qualified or INSPIRE)	M.Sc. In Physics

School of Materials Science

Sr. No.	Broad research area	No. of students	Requirement
01.	Physical Chemistry or Inorganic Chemistry	1	M.Sc. in Chemistry
02.	1. Energy (Supercapacitor/battery) materials 2. Optical (optoelectronic/sensing) materials 3.Magnetic properties	3	2 with M.Sc. In Physics 1 with M.Sc. In Physics/Chemistry
03.	2D material based Supecapictors	1	M.Sc. in Physics/Chemistry
04.	Nanocrystals for energy harvesting	1	M.Sc. in Chemistry
05.	Nanobiotechnology, Biophysical Chemistry	2	M.Sc. in Chemistry
06.	Cathode material for Na/Li/Mg-ion and solid state batteries	2	M.Sc. In Physics/Chemistry
07.	Experimental Condensed Matter Physics, Magnetism, Quantum Materials, Multiferroics	1	M.Sc. In Physics/Chemistry

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.

Click here for Fees Structure

Tentative date of interview: 21 June, 2021 to 03 July, 2021 which is subject to change considering the pandemic situation according to the decision of IACS. Exact date and time of Admission Test/or Interview will be announced on the website.

For further information in this regard, please contact Dr. Sasanka Maji (Phone: 24734971; Extn: 2219,. Email: mssm4@iacs.res.in).

Co-ordinator, PhD programme