

Joint Entrance Screening Test – 2007 JEST – 2007

For Ph.D. Programmes in Physics/Theoretical Computer Science

Applications are invited from motivated students, with consistently good academic record, for enrolment in a Ph.D. Programme in **Physics** (including various interdisciplinary research areas in Physics)/**Theoretical Computer Science**, at any of the following institutes:

- Aryabhata Research Institute of Observational Sciences (**ARIES**), Nainital: Astronomy, Astrophysics and Atmospheric Physics
- Indian Institute of Astrophysics (**IIA**), Bangalore: Astronomy, Astrophysics, Astronomical Instrumentation and Optics, Atomic Physics and Nonlinear Optics Experiments
- Inter-University Centre for Astronomy and Astrophysics (**IUCAA**), Pune: Physics, Astronomy and Astrophysics
- Jawaharlal Nehru Centre for Advanced Scientific Research (**JNCASR**), Bangalore: Experimental and Theoretical Condensed Matter Physics, Statistical Mechanics and Materials Science
- National Centre for Radio Astrophysics (**NCRA**), TIFR, Pune: Astronomy and Astrophysics
- Physical Research Laboratory (**PRL**), Ahmedabad: Physics (Experimental and Theoretical, Complex Systems, Nonlinear Dynamics, Quantum Optics & Quantum Information, Astronomy, Astrophysics & Solar Physics), Space & Atmospheric Sciences, and Planetary Sciences & Geosciences
- Raman Research Institute (**RRI**), Bangalore: Astronomy & Astrophysics, Light & Matter Physics, Soft Condensed Matter Physics (Liquid Crystals, Physics in Biology) and Theoretical Physics
- Satyendra Nath Bose National Centre for Basic Sciences (**SNBNCBS**), Kolkata: Astrophysics & Cosmology, Chemical & Biological Physics, Condensed Matter Physics & Material Science, High Energy Physics & Quantum Field Theory, Mathematical Physics, Nanosciences, Quantum Optics & Quantum Information, Statistical Physics, and Complex Systems.

& Homi Bhabha National Institute (**HBNI**, a Deemed University), Mumbai for DGFS fellowships and the following affiliated institutes of **HBNI**:

- Bhabha Atomic Research Centre (**BARC**), Mumbai: Condensed Matter Physics, Crystallography, Nuclear Physics, Accelerator Physics, Reactor Physics, Atomic & Molecular Physics, Nanoscience, High Pressure Physics, Seismology, Laser & Plasma Physics, Mass Spectroscopy, and Computational Physics
- Harish-Chandra Research Institute (**HRI**), Allahabad: Theoretical Physics and Astrophysics
- Indira Gandhi Centre for Atomic Research (**IGCAR**), Kalpakkam: Experimental & Computational Condensed Matter Physics, Low Temperature Physics, High-pressure Physics, Raman & Infrared Spectroscopy, Positron Annihilation Spectroscopy, Surface Science, Thin Films, Nanoscience & Technology, Superconducting Devices, Accelerator Based Materials Research, and Reactor Physics

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- The Institute of Mathematical Sciences (**IMSc**), Chennai: Theoretical Physics and Theoretical Computer Science
- Institute of Physics (**IOP**), Bhubaneswar: Physics (Condensed Matter, Nuclear & High Energy Physics) and Accelerator-based Research
- Institute for Plasma Research (**IPR**), Gandhinagar: Physics (Experimental and Theoretical)
- Raja Ramanna Centre for Advanced Technology (**RRCAT**), Indore: Lasers & their Applications, Laser Plasma Interaction, Cold Atom Physics, Condensed Matter Physics (Superconductivity & Magnetism, Crystals & Thin Films), Nanomaterials & Applications, Nonlinear & Ultrafast Optical Studies, and Beam Physics & Free Electron Laser
- Saha Institute of Nuclear Physics (**SINP**), Kolkata: Condensed Matter Physics (Theory & Experiments), Nuclear Physics (Theory & Experiments), High Energy Physics (Theory, Astroparticle Physics, Quantum Gravity & String Theory and Experiments), Mathematical Physics, and Materials Science (Surface Science & Plasma Physics)
- Variable Energy Cyclotron Centre (**VECC**), Kolkata: Accelerator Physics, Condensed Matter Physics, Nuclear Physics (Experiments & Theory), Relativistic Heavy Ion Collisions (Experiments, Theory, QCD & QGP), and Physics of Neutrinos (Experiments)

MINIMUM QUALIFICATIONS AND SELECTION PROCEDURES

- **For Physics:** M.Sc. in Physics or M.Sc./M.E./M.Tech. in related disciplines. Candidates with M.Sc. in Mathematics will also be considered at IIA. Graduates with a B.E. or B.Tech. will also be considered at IIA, IUCAA, NCRA, JNCASR, RRI, SNBNCBS and IMSc. At IPR, candidates should have a Masters degree in Physics, Engineering Physics, Applied Physics, etc. with at least 55% aggregate.
- **For Theoretical Computer Science:** M.Sc./M.E./M.Tech. in Computer Science or related disciplines, and should be interested in the mathematical aspects of computer science. Talented B.Sc./B.E./B.Tech. graduates will also be considered for integrated M.Sc.–Ph.D. programme.

INTEGRATED M.Sc. – Ph.D. PROGRAMME

- **At HRI**, candidates with a Bachelor's degree will also be considered for the Integrated M.Sc.–Ph.D. programme in Physics.
- **At IMSc**, graduates with B.Sc./B.E./B.Tech. degree will also be considered for admission to the M.Sc. (by Research) programme in Physics/Theoretical Computer Science, as part of an integrated Ph.D. programme in these disciplines.
- **At SNBNCBS**, talented graduates with B.Sc. (Physics)/B.E./B.Tech. degree will be considered for the integrated Post-B.Sc.–Ph.D. programme in subject areas mentioned above.

In all disciplines, students who expect to complete their final examination by August 2007 are also eligible to apply.

Candidates seeking admission to any of the above institutes for a Ph.D. Programme in Physics or Theoretical Computer Science may appear for the JEST 2007. Written examination will be held at the following test centres: Ahmedabad, Aligarh, Allahabad,

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Bangalore, Bhopal, Bhubaneswar, Chandigarh, Chennai, Delhi, Goa, Guwahati, Hyderabad, Indore, Jaipur, Kanpur, Kharagpur, Kochi, Kolkata, Madurai, Mumbai, Nagpur, Nainital, Patna, Pune, Raipur, Roorkee, Silchar, Thiruvananthapuram, Udaipur, and Visakhapatnam.

Qualifying in JEST does not entitle an applicant to get a Research Fellowship. Using the JEST results, each institute will call a limited number of candidates for its further selection procedure depending on its requirements. All selected candidates will receive Research Fellowship from the respective institutes.

How to apply

Candidates for Physics/Theoretical Computer Science can apply for JEST–2007 ON-LINE by visiting the web site <http://jest07.iopb.res.in>.

Although ON-LINE application is preferred, those who have difficulty in accessing internet may submit OFF-LINE (printed) application forms as follows:

For Physics as well as Theoretical Computer Science, application forms can be obtained by writing to: *The Coordinator, JEST–2007, Institute of Physics, Sachivalaya Marg, Bhubaneswar 751 005, Orissa*, along with (a) a demand draft of Rs 60 favouring 'JEST 2007, Bhubaneswar' (payable at Bhubaneswar), and (b) address for correspondence.

E-MAIL APPLICATIONS AND XEROX COPIES OF PRINTED APPLICATIONS WILL NOT BE ACCEPTED.

For Mathematics at HRI/IMSc, the candidates need not send in any application. However, they must apply for the Research Awards of the National Board for Higher Mathematics (NBHM) and appear for that screening test.

For details visit <http://www.imsc.res.in> or <http://www.mri.ernet.in>.

The above information is also available at <http://jest07.iopb.res.in>. Details about the on-going programmes at different institutions are available at this JEST–2007 website with appropriate hyperlinks.

Important Dates

- On-line submission of applications will be enabled at <http://jest07.iopb.res.in> from **October 20, 2006**.
- Request for printed application forms should reach IOP by **December 8, 2006**.
- Last date for receipt of the filled applications, and for ON-LINE submission of applications, is **December 31, 2006**.
- **JEST** will be held on **February 18, 2007**, 10.00 a.m. to 1.00 p.m.