

Applications are invited for the Joint Entrance Screening Test for the candidates who are seeking admission for a Ph.D. Program in Physics or Theoretical Computer Science in the Participating Institutes may appear for JEST-2012

Programs and Eligibility Criteria:

Ph.D. Program:

Physics:

- M.Sc. in Physics or M.Sc. / M.E. / M.Tech. in related disciplines.
- Candidates with M.Sc. in Mathematics / Applied Physics / Applied Mathematics / Optics and Photonics / Instrumentation / Electronics will also be considered at IIA.
- Graduates with a B.E. or B.Tech. will also be considered at IISc, IMSc, IUCAA, JNCASR, NCRA-TIFR RRI, IISER Mohali, IISER Pune, IISER Thiruvananthapuram and SNBNCBS.
- Talented final year B.Sc. and first year M.Sc. (in Physics / Electronics / Astronomy / Applied Mathematics) students may also apply to be pre-selected for research scholarship at IUCAA.
- At IPR, candidates should have a Master's degree in Physics, Engineering Physics or Applied Physics.

Theoretical Computer Science:

M.Sc./ M.E. / M.Tech. / M.C.A. in Computer Science and related disciplines, and should be interested in the mathematical aspects of computer science. Visit website of IMSc for further details.

Integrated M.Sc. / M.Tech - Ph.D Program:

- At HRI, IISER-Pune, SNBNCBS, and NCRA-TIFR candidates with a Bachelor's degree will also be considered for the integrated M.Sc., Ph.D. programme in Physics.
- At IMSc, graduates with Bachelor's degree in science/ mathematics/ /statistics /computer science/information technology/Engineering will also

be considered for admission in Physics and in Theoretical Computer Science, as part of an integrated Ph.D. programme. All candidates successful in the course work of this programme shall be awarded an M.Sc. degree.

- At SNBNCBS, 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.
- At IIA, graduates with B.Sc. (Physics / Mathematics) / B.E. / B.Tech. in Electrical / Instrumentation / Engineering Physics / Electronics and Communications / Computer Science and Engineering / Optics and Photonics will be considered.

Integrated M.Tech - Ph.D. Program at IIA:

- Graduates with M.Sc. (Physics / Applied Physics) / Post-B.Sc. (Hons) in Optics and Optoelectronics / Radio Physics and Electronics / B.E. / B.Tech. degree in subjects mentioned above will be considered. Visit IIA website for details.

Note: Students who are expected to complete their final examinations by August 2012 are also eligible to apply.

Participating Institutes & Courses Offered

- Aryabhata Research Institute of Observational Sciences, Nainital
Astronomy and Astrophysics, and Atmospheric Physics.
- Homi Bhabha National Institute, Mumbai
- Harish-Chandra Research Institute, Allahabad: Theoretical Physics,
Astrophysics
- Indira Gandhi Centre for Atomic Research, Kalpakkam: Materials Science,
Condensed Matter (Experimental and Theoretical), Radiation Damage and
Accelerator-based Research, Sensors and Applications, Science and
Technology of Nanomaterials, Computational Materials Science, Reactor
Physics, Radiation Physics and Atmospheric Science.

- Indian Institute of Astrophysics, Bangalore: Astronomy and Astrophysics, Astronomical Instrumentation, Optics, and Atomic Physics.
- Indian Institute of Science, Bangalore: Condensed Matter Physics (Experiments and Theory), Astronomy and Astrophysics (Theoretical), Atomic and Optical Physics (Experimental), Biocrystallography and Bio-informatics, and High Energy Physics (Theoretical).
- Indian Institute of Science Education and Research, Mohali: Quantum Theory, Quantum Information Processing, NMR-Methodology, Optics, Statistical Mechanics, Quantum Thermodynamics, Non-linear Dynamics, String Theory, Ultrafast Physics, and Low Temperature Mesoscopic Physics.
- Indian Institute of Science Education and Research, Pune: Field Theory, Theoretical Particle Physics, Condensed Matter Physics, Non-linear Dynamics, Complex Systems and Networks, Nuclear Magnetic Resonance Spectroscopy, Quantum Information Processing, Radio Astrophysics, Atomic Physics and Quantum Optics, Energy Studies, Solar and Plasma Physics, Nanosciences, Scanning Probe Techniques, and Semiconductor Physics and Devices.
- Indian Institute of Science Education and Research, Thiruvananthapuram: Experimental Condensed Matter: Magnetic and Superconducting materials, Nanoscience and Energy materials, Photonics, Soft Condensed Matter, Semiconductor Physics and Devices, Surface Sciences and Nano-scale Plasmonics, Terahertz and Ultrafast Spectroscopy; Theory: Cosmology, Classical and Quantum Gravity, Gravitational Wave Physics, Quantum Information Theory, Quantum Field Theory, and Statistical Physics.
- The Institute of Mathematical Sciences, Chennai: Theoretical Physics, and Theoretical Computer Science.
- Institute of Physics, Bhubaneswar: Physics (Condensed Matter, Nuclear and High Energy Physics) and Accelerator-based Research.
- Institute for Plasma Research, Gandhinagar: Physics (Experimental and Theoretical).
- Inter-University Centre for Astronomy and Astrophysics, Pune: Physics, Astronomy and Astrophysics.

- Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore: Experimental and Theoretical Condensed Matter Physics, Statistical Mechanics, and Materials Science.
- National Centre for Radio Astrophysics, TIFR, Pune: Astronomy and Astrophysics.
- National Institute of Science Education and Research, Bhubaneswar: Theoretical High Energy Physics and Lattice QCD, Experimental High Energy Physics, Condensed Matter Physics (Theory and Experiment), Optics and Metamaterials.
- Physical Research Laboratory, Ahmedabad: Theoretical Physics, Astronomy and Astrophysics, Solar Physics, Space and Atmospheric Sciences, Planetary Science and Geo-Sciences.
- Raja Ramanna Centre for Advanced Technology, Indore: Lasers and their Applications, Laser Plasma Interaction, Cold Atom Physics, Condensed Matter Physics (Superconductivity and Magnetism, Crystals and Thin Films), Nanomaterials and Applications, Non-linear and Ultrafast Optical Studies, Beam Physics, and Free Electron Laser.
- Raman Research Institute, Bangalore: Astronomy and Astrophysics, Light and Matter Physics, Soft Condensed Matter Physics (Liquid Crystals, Physics in Biology), and Theoretical Physics.
- Saha Institute of Nuclear Physics, Kolkata: Condensed Matter Physics (Theory and Experiments), Nuclear Physics (Theory and Experiments), High Energy Physics (Theory and Experiments), Astroparticle Physics, Quantum Gravity, String Theory, Mathematical Physics, and Materials Science (Surface Science and Plasma Physics).
- Satyendra Nath Bose National Centre for Basic Sciences, Kolkata: Astrophysics and Cosmology, Chemical and Biological Physics, Condensed Matter Physics and Material Science, High Energy Physics and Quantum Field Theory, Mathematical Physics, Nanosciences, Quantum Optics and Quantum Information, Statistical Physics, and Complex Systems.
- UGC-DAE Consortium for Scientific Research, Indore: Surfaces, Interfaces, Thin Films and Nanomaterials, Physics at Low Temperatures and High

Magnetic Fields, X-ray, Optical and Electron Spectroscopic Studies Using Synchrotron and Laboratory Sources; Electrical, Magnetic and Thermal Properties of Condensed Matter; Condensed Matter studies using Magnetic Neutron Diffraction, Nuclear Technique Based Condensed Matter Physics- Positron Annihilation Spectroscopy, Mossbauer Spectroscopy, Experimental Nuclear Physics, Gamma Ray Spectroscopy of Nuclear High Spin States, and Nuclear Reactions.

- Variable Energy Cyclotron Centre, Kolkata: Accelerator Physics, Condensed Matter Physics and Materials Science, Nuclear Physics (Experiments and Theory), Relativistic Heavy Ion Collisions Experiments, Theory, QCD and QGP), and Physics of Neutrinos (Experiments).

Important Dates:

- Last date to request application forms: 05/12/2011
- Last date for submission of application forms: 15/12/2011
- JEST-2012 Written Test will be held on: 19/02/2012