

राष्ट्रीय प्रौद्योगिकी संस्थान – रायपुर

NATIONAL INSTITUTE OF TECHNOLOGY RAIPUR Phone: (0771) 2254200
(Institute of National Importance) Fax : (0771) 2254600
G.E. Road, Raipur – 492010 (C.G.) E-mail: director@nitrr.ac.in Website: www.nitrr.ac.in

1. ELIGIBILITY FOR PH.D. ADMISSIONS

1.1 Educational Qualifications

The Minimum qualifications for admission to the Ph.D. programme shall be:

A Master's degree in Engineering/Technology/Science/Management/Humanities and Social Science or any other equivalent qualification recognized by the institute. Minimum 60% marks or 6.5/10 CGPA /CPI at Master's degree is essential for admission in Ph.D. programme of the institute.

The concerned department will judge suitability of the candidate for pursuing Ph.D. in particular discipline based on his/her specialization in Master's Degree.

Candidates who are appearing in qualifying examination are also eligible to apply. However, they have to produce a certificate of passing the qualifying examination as stated above on the day of interview.

1.2 Other Conditions

- A candidate should apply for full time/ sponsored/ self financed/ part time candidature on the prescribed form on or before due date fixed for the same.
- There is no age limit for the applicant.
- Candidates are advised to refer Ph.D. ordinance available in the institute website (http://nitrr.ac.in/downloads/ordinance/Ph.D.%20Ordinance%202005_16.pdf) to make sure their eligibility on full time/ sponsored/ self financed/ part time category.

2. SELECTION PROCESS

- (i) Shortlisting of candidates for Ph.D. program will be done on the basis of objective type written examination.

(ii) Candidates who are regular faculty and staff member of NIT Raipur who have successfully completed their probation period need not to appear in written entrance examination. Similarly, UGC/CSIR (JRF)/NET/Teacher Fellowship holder/M. Phil. passed candidates need not to appear in written entrance examination.

(iii) All other eligible candidates will be shortlisted based on their performance in written examination.

(iv) All shortlisted candidates along with candidate of category (ii) above will be called for interview for final selection.

3. RESERVATION/RELAXATION

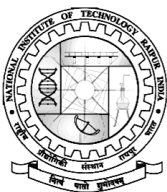
Number of seats for Ph.D. admission is not fixed. Hence preference will be given to OBC/SC/ST/PH candidates over OC candidates if all other things remain the same.

4. DATE OF WRITTEN EXAMINATION AND INTERVIEW

The date of written examination and interview is not yet finalized. These dates along with result of scrutiny and selection will be displayed in the institute website www.nitr.ac.in and no intimation will be sent to the candidates by post. The candidates are advised to visit institute website regularly.

5. SCHOLARSHIP

The award of scholarship/fellowship to full time candidates will be applicable according to Central Government/MHRD norms.



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Year 2017

S.N	Departments	Broad Research Areas
1	Applied Geology	Structural Geology / tectonics, Petrology , Mineralogy & Geochemistry, Hydrogeology ,Water Resource Development & Management , Remote Sensing & GIS , Hyper-spectral / Microwave /Thermal Remote Sensing application in geology /Environmental Geology
2	Biomedical	Biomedical image processing and analysis, Bio-signal processing and analysis , Computational neuroscience , Application of soft computing Tissue Engineering ,Computational biomechanics , Micro-fluidic Device designing , Acoustophoretic device designing, Biomedical Instrumentation, Foot biomechanics, Gait analysis Device development for diagnosis, Biomechanics of Yoga posture, EMG signal processing for different posture /prosthetic limb design, Non invasive blood pressure device /blood glucose monitoring device /sensory device, Optimization of filtering technique for MR/CT image processing, Artificial kidney system Inverse Problems. Medical Imaging, Image Reconstruction, Photo acoustic Tomography, Monte Carlo Simulations.
3	Bio-Technology	Bio-Energy, Bio-Remediation, & Bio-Nano-composites, Food Biotechnology, Waste to energy, Bio process development, Waste water treatment, Bio-informatics, Enzyme technology, Nano technology and Nano biosensor, Enzymatic drug modification.
4	Chemical Engineering	Electrochemistry, Solar cells, Waste water treatment on Nano Technology, Surface reactions, Surface coatings, Membrane separation, Bio-degradation, Nano Composites, Polymer technology.
5	Chemistry	Analysis of Nuclear Materials, DNA Binding & Drug design, Biosorption, Nano-materials, Corrosion, Environment Science , Luminescence Polymer & Nano-Composites, Microcellular composites & Environmental chemistry, Environment & Analytical chemistry, Polymer synthesis, Polymer Nano-particles, Inorganic catalysis, Environmental chemistry, Organic Chemistry & Medicinal Chemistry, Crystal Engineering, Hydrogen bonding, Coordination polymer.

6	Civil Engineering	Water Resources Engineering, Structural Engineering, Geotechnical Engineering, Geo-environmental Engineering ,Geo-Matics Engineering / GIS Application / Soil Structure Interaction / Structural Engg./ Earthquake Engineering, Nonlinear Analysis, Environment pollution control, Remediation, Treatment, Management, FEM system Identification, Concrete Structure
7	Computer Application(MCA)	Artificial Intelligence , Soft computing tools , Machine learning, Computer network, Distributed computing, Internet of things, Cloud computing, Information Security, Heuristic, Swarm Intelligence Techniques, Evolutionary Algorithms and other meta-heuristic techniques for combinatorial optimization problems, Multimedia forensics and security of cyber physical systems, Soft computing, Brain computer interfacing , Medical signal & Image processing ,Data mining, Image mining , Machine learning.
8	Computer Science & Engineering	Internet of Things , Vehicular ad- hoc Network , Machine learning , Big Data Analysis , Soft computing
9	Electrical Engineering	Optimization applications, Medical signal & Image processing , Speech processing , Biometrics , Machine learning , Pattern Recognition, Application of soft computing techniques in Power & renewable energy systems, Power system protection, Smart-grid protection, Micro-grid protection, Power Electronics convertor for Electric vehicle, Renewable Energy System , Hybrid Energy System & DC Micro-grid applications, Applications of artificial intelligence in control system,High Voltage Engineering.
10	Electronics & Telecommunication Engineering	Wireless sensor networks, Wireless communication, Computer vision, Image processing, Secure communication, Network and information security, VLSI & Microelectronics, Application of soft computing techniques to DSP problems, Multimedia forensics/ Security, Image Analysis/understanding, Pattern recognition, Biomedical signal processing.
11	Humanities & Social Sciences	English literature, American literature , English language teaching, English linguistics, Phonology phonetics, Neuroscience, Brain and language, Human rights, Sociology of children and youth, Sociology of social change.
12	Information Technology	Wireless network, Wireless Sensor Network, DTN, Soft computing , Internet of Things, Big data processing, Image processing, Distributed computing, Cloud computing, Artificial Intelligence, Robotics, Network security.
13	Mathematics	Algebra, linear Algebra, Rough set theory, Fluid Dynamics, Statistical methods.

14	Mechanical Engineering	Strategic management I E &M, Lubrication, Friction & wear of Bearings, Thermal Engineering, Multiphase flow compositional modeling, Computational fluid dynamics & H. T. (CFD), Alternative fuels , Solid Mech, Vibration composite, ERP, MIS, Industrial Engg, Production engg., Computational Mechanics, Optimization supply chain, Composite Ti alloys, FGM Tribology, Functionally graded materials, Mech. Behavior of materials, Electro active Polymer (EAP), Welding composite and Production Engg., Fracture & Fatigue using numerical techniques, Production Engg./Manufacturing science, Composite Mechanics.
15	Metallurgical Engineering	Structure property correlation, Welding, High Strength materials, Bio-Materials for artificial joints replacement, ODS- alloys, Materials modeling / Phase transformation/ Alloy design, Material processing, Solidification, Light metals.
16	Mining Engineering	Rocks excavation, Environment modeling, Rock blasting, Rock mechanics Surface mining, RS & GIS Applications, Computer applications in Mining Geo-statistics , Mine planning & Optimization.
17	Physics	Optical properties of Nano-phosphors, Solar cell.