



राष्ट्रीय प्रौद्योगिकी संस्थान, राउरकेला  
NATIONAL INSTITUTE OF TECHNOLOGY, ROURKELA

NITR/AC/EPTP/2024/M/1328

14<sup>th</sup> May, 2024

**Notice for Admission to Executive Ph.D. Programme Starting in Autumn  
(July) 2024-25**

**Online applications** are invited from interested and eligible Indian citizens for admission to the Executive Ph.D. Programme of the Institute to be offered under **Self Financing Scheme** Starting in **Autumn (July)** semester of the **AY 2024-25**.

Sl. No.	Name of the Department	Code	Indicative Broad Areas of Research for Executive Ph.D
1	<b>Biotechnology and Medical Engineering</b>	BM	Medical Electronics & Instrumentation, Biomedical Signal and Image Processing, Tissue Engineering & Biomaterials, Cell & Molecular Engineering, Bioprocess Engineering, Environmental & Plant Biotechnology, Biomechanics & Bio-transport Engineering, Artificial Intelligence, Microfluidics. <b>(*All fields of Biotechnology and Medical Engineering)</b>
2	<b>Civil Engineering</b>	CE	Geotechnical Engineering, Structural Engineering, Transportation Engineering, Water Resources Engineering, Environmental Engineering.
3	<b>Chemical Engineering</b>	CH	Semiconductor and Energy Storage Devices, Catalytic materials for CH <sub>4</sub> oxidation, NO <sub>x</sub> reduction and energy storage systems, Separation, Purification and hydrodynamic behavior of Complex Fluid, Nanotechnology, Heat Transfer, Separation Technology.
4	<b>Ceramic Engineering</b>	CR	Ceramics, Structural Ceramics, Nano-Ceramics, BioCeramics, Electroceramics, Materials for energy and Environment Application, Luminescent Materials, Refractory, glass.
5	<b>Computer Science &amp; Engineering</b>	CS	AI/ML, Cloud Computing WSN, Software Engineering, Computer Vision, Biomedical Signal and image processing, Cloud Security, Cryptography, Low Power VLSI, NLP, SDN.
6	<b>Chemistry</b>	CY	Soild State and Materials Chemistry, Nanomaterials, Fluorescence Nanosensor, biomaterials, FL spectroscopy, Biophysical Chemistry.
7	<b>Electronics &amp; Communication Engineering</b>	EC	RF & Microwave and Antennae, Communication, Bio-Medical Signal/Image Processing, VLSI, Embedded Systems, Internet of Things (IoT), Radar, Instrumentation & Control, Computer Vision, Medical Image Analysis, Semiconductor Devices/Nano electronics, SIP/Instrumentation & Control, Signal Processing.
8	<b>Electrical Engineering</b>	EE	Control & Automation, Power Electronics & Drives, Electronic Systems & Communication, Power Systems, Signal/Image Processing, Computer Vision,

			Control & Instrumentation, Embedded Systems, Digital Signal/Image processing.
9	<b>Earth and Atmospheric Sciences</b>	ER	Earth Sciences , Atmospheric Sciences.
10	<b>Food Process Engineering</b>	FP	Transport Process & Kinetics , Product Development & Ingredients, Innovation, Post-Harvest Operations, Food Quality & Safety, Food Properties, Food Packaging & Storage Engineering, Computer Aided Engineering .
11	<b>Humanities &amp; Social Sciences</b>	HS	English, Economics/Population Studies, Sociology/ Anthropology, Psychology, Sanskrit.
12	<b>Industrial Design</b>	ID	CAD, Ergonomics, Human Factors, Product Design, Biomechanics ,Robotics, Human Computer Interaction, Occupational health and MSDs.
13	<b>Life Science</b>	LS	Human Molecular Genetics, Molecular Genetics, Epigenetics, Applied Nanobiotechnology and Immunology. <b>(All branches of Life Science)</b>
14	<b>Mathematics</b>	MA	Algebra, Analysis, Numerical Analysis, Differential Equations, Fluid Dynamics, Probability and Statistics, AI/ML.
15	<b>Mechanical Engineering</b>	ME	Machine Design, Thermal Engg., Production Engg.
16	<b>Metallurgical &amp; Materials Engineering</b>	MM	Computational Materials, Fatigue of Metals, Composite Materials, Powder Metallurgy, Structure – Property relationships, Welding, Nanomaterials, Surface Engineering / Extraction Corrosion Metallurgy, Smart Materials ,Metallic Biomaterials.
17	<b>Mining Engineering</b>	MN	Mine Environment, Remote Sensing & GIS, Rock Mechanics, Mine Safety & Health, Mine Automation, Mine Ventilation.
18	<b>Planning and Architecture</b>	PA	Urban and regional Planning, Creative Economy of Cities, Urban Heritage Conservation, Placemaking, Traditional Knowledge Systems in Settlement Planning, Urban and Regional Planning, Globalising Cities, Leisure studies, Social networks, Nature based solution, Agile cities, Cultural and Creative economic Planning, , Energy efficient building, Decarbonization and Urban Planning, Sustainable urbanism, Age friendly neighbourhood, Environmental Psychology.
19	<b>Physics and Astronomy</b>	PH	Condensed matter Physics (experiment), Condensed Matter Physics(theory), String theory and High Energy Physics (theory), Soft Condensed matter Physics (theory).
20	<b>School of Management</b>	SM	Finance, Corporate Governance, General Management ,Human Resource Management, Marketing..

## B. Qualification required for Executive Ph. D Program

Minimum qualification required for admission to Executive Ph. D programs in Engineering, Science, Planning & Architecture, Management, and Humanities & Social Sciences is one of the following:

- a) M.E./M.Tech./M.Pharm in relevant discipline with at least 6.5 CGPA or 60 percent marks or 1<sup>st</sup> class in in both B.Tech.(B.Pharm/M.Sc./MCA or equivalent) and M.Tech levels from a recognized Technological Institute or University.

- b) B.E./B.Tech./B.Pharm/MCA/B.Arch. or equivalent in relevant discipline with at least 7.0 CGPA or 65 percent marks.
- c) M.Sc. in Basic Sciences with CGPA 7.0 or 65 percent marks in relevant disciplines. For applicants with valid GATE/NET/GPAT score, requirement may be relaxed by maximum 0.5 CGPA or 5% marks.
- d) M.B.B.S./B.V.Sc. with 6.5 CGPA or 60 percent marks or 1<sup>st</sup> class.

Besides, applicants having the following qualification are also eligible for Executive Ph. D Programme in Management and Humanities & Social Sciences:

- e) M.A. / MBA / M.Com. / M. Sc. in Humanities and Social Sciences or Management with at least 6.5 CGPA or 60 percent marks or 1<sup>st</sup> class and B.A. / BBA / B.Com. / B. Sc. with at least 6.5 CGPA or 60 percent marks or 1<sup>st</sup> class.

### **Relaxation –**

- a) Relaxation of 0.5 in CGPA [5 percent in marks] may be considered in the qualifying degree for the Group-A officers of Central/State Govt./Autonomous Bodies, faculty and Group-A officers of Central/State Universities/CFTIs, positions in private sectors having annual CTC equal to annual gross pay at the minimum pay scale in Level – 10 of 7 CPC Pay Matrix, who have at least 5 years of experience as on **15<sup>th</sup> June, 2024.**
- b) Less than 6.5 CGPA [60 percent marks] in 10th and/or 12th will be accepted without qualifying in NET/GATE/any other examination.
- c) Less than 6.5 CGPA [60 percent marks] in B.A. / BBA / B.Com. / B. Sc. / B.E. / B. Tech. / B. Pharm. / M. Sc. / MCA will be accepted if the same is not the minimum qualifying degree [i.e. in case of (a), (c) and (e) above] for applicants who have qualified in NET/GATE/GPAT/any other examination in any year (validity not mandatory).

In addition to the above eligibility criteria (based on minimum qualification), following additional criteria will also be applicable:-

- a) For admission to Engineering and Science disciplines (except Life Science), an applicant should have passed Mathematics in +2 Science.
- b) Science students admitted to Ph.D. program in Engineering need Mathematics in +3 level. Students without Mathematics in +3 level may be admitted under the condition that they will have to register for 16 credits of 1000 and 2000 level Mathematics and 1000 level Computer Science courses (Theory and Practical) in addition to their normal course requirement, and secure at least C grade in each course.
- c) A student should have passed Life Science or Biological Science either in +2 or +3 level for admission to Ph. D in Life Science department.
- d) Students without adequate background in the primary discipline will be required to have 10% extra marks (1.0 CGPA) to qualify over students with specialization in a primary discipline, unless explicitly exempted by the Senate. List of primary disciplines and specializations for various departments is given in Clause “C” below.
- e) **Must be currently working & should have at least 02 years of post-qualifying degree work experience as on 15<sup>th</sup> June, 2024.**

However, a higher selection criteria (may be different for different departments) may be set by the Departments during scrutiny of applications depending on the number and quality of applications. Therefore, mere fulfillment of the minimum eligibility criteria does not guarantee an applicant to be called for test/interview and/or grant of admission.

### C. Qualifying Degrees and Primary Disciplines for Executive Ph.D. Programme

Qualifying Degrees and relevant primary disciplines for admission to Executive Ph.D. Programme of various departments will be as mentioned against respective departments in the following table.

Department	Academic Eligibility / Primary Disciplines for Executive Ph.D
<b>Biotechnology and Medical Engineering (BM)</b>	ME / M. Tech. / BE / B. Tech. <b>OR</b> Master's / Bachelor's degree in Medicine / Dental / Veterinary / Pharmacy <b>OR</b> Master's degree in Basic Science
<b>Civil Engineering (CE)</b>	M. Tech. / B. Tech. in Civil / Mining / Mechanical / Agricultural / Chemical Engineering
<b>Chemical Engineering (CH)</b>	B. Tech. / M. Tech. in Chemical / Petroleum and Petrochemical / Polymer / Environmental / Metallurgical & Materials / Ceramic / Mechanical / Biochemical / Mining Engineering/ Nanotechnology / Biotechnology
<b>Ceramic Engineering (CR)</b>	B. Tech. / M. Tech. in Ceramic / Metallurgical & Materials / Chemical / Mechanical Engg. / Biomedical Engg / Nanotechnology / Biotechnology <b>OR</b> M. Sc. in Physics / Chemistry / Materials Science / Nano Science
<b>Computer Science &amp; Engineering (CS)</b>	B. Tech. / M. Tech. in Computer Science & Engineering / Information Technology <b>OR</b> MCA <b>OR</b> M. Sc. in Computer Science / Information Technology
<b>Chemistry (CY)</b>	M. Sc. in Chemistry / Physics / Biochemistry / Biotechnology / Nanoscience & Nanotechnology / Bioinformatics / Industrial Chemistry / Applied Chemistry / Environmental Chemistry / Food Science & Technology / Nutrition <b>OR</b> M. Pharm. <b>OR</b> B. Tech. / M. Tech. in Chemical Engineering / Ceramic Engineering / Metallurgical and Materials Engineering / Biotechnology
<b>Electronics &amp; Communication Engineering (EC)</b>	B. Tech. / M. Tech. in Electronics Engineering / Electrical Engineering / Electronics & Communication Engineering / Electronics & Telecommunication Engineering / Electronics & Instrumentation Engineering / Applied Electronics & Instrumentation Engineering / Electrical and Electronics Engineering
<b>Electrical Engineering (EE)</b>	B. Tech. / M. Tech. in Electrical Engineering / Electronics Engineering / Electrical & Electronics Engineering / Electronics & Communication Engineering / Instrumentation Engineering / Instrumentation & Control Engineering
<b>Earth &amp; Atmospheric Science (ER)</b>	M. Sc. / M. Tech. in Geology / Applied Geology / Geophysics / Environmental Science / Remote Sensing / Chemistry / Physics / Atmospheric Science / Meteorology / Oceanography / Mathematics <b>OR</b> B. Tech. / M. Tech. in Civil Engineering / Mining Engineering / Electronics Engineering / Computer Science & Engineering
<b>Food Process Engineering (FP)</b>	B. Tech. with M. Tech. in Food Processing Engineering / Food Technology / Agricultural Process Engineering / Post Harvest Engineering / Agricultural Engineering
<b>Humanities and Social Sciences (HS)</b>	M. Sc. / MA in Economics / English / Sociology / Anthropology / Psychology / Sanskrit <b>OR</b> B. Tech. / M. Tech. in any branch of Engineering <b>OR</b> MBA
<b>Industrial Design (ID)</b>	B. Des. / BE / B. Tech. with M. Des. / ME / M.Tech. in any discipline.
<b>Life Sciences (LS)</b>	M. Sc. in Life Sciences / Botany / Zoology / Microbiology / Biotechnology / Biochemistry / Bioinformatics / MBBS / BVSc../ Bio-Physics / Food Science & Technology <b>OR</b> B. Tech. / M. Tech. in Biotechnology or any branch of biological sciences <b>OR</b> B. Pharm. / M. Pharm. <b>OR</b> MS in any branch of biological sciences
<b>Mathematics (MA)</b>	M. Sc. in Mathematics / Statistics / Computer Science / Information Technology

	<b>OR MCA OR First class B. Sc. with Mathematics / Statistics as Honors' OR B. Tech. / M. Tech. in any branch of engineering</b>
<b>Mechanical Engineering (ME)</b>	B. Tech. / M. Tech. in Mechanical / Machine Design / Thermal / Cryogenics / Mechatronics / Robotics / Mechanical Vibrations / Automobile / Production / Manufacturing / Industrial Management / Aerospace / Aeronautical / Composites / Tribology / Fluid Flow and Heat Transfer
<b>Metallurgical &amp; Materials Engineering (MM)</b>	B. Tech. / M. Tech. in Metallurgy Engineering / Metallurgical & Materials Engineering / Ceramic Engineering / Chemical Engineering / Mechanical Engineering / Production Engineering / Manufacturing Engineering <b>OR</b> M. Sc. in Physics / Chemistry / Materials Science
<b>Mining Engineering (MN)</b>	B. Tech. / M. Tech. in Mining / Civil / Environmental / Chemical / Electronics / Electrical / Instrumentation / Computer Science / IT / Mechanical / Metallurgical & Materials Engineering <b>OR</b> M. Sc. in Geology / Geo-Physics / Environmental Science / Remote Sensing / Mathematics / Statistics / Chemistry / Physics
<b>Planning &amp; Architecture (PA)</b>	B. Arch. with M. Arch. / MCP / MURP / MUP / MTRP / M. Tech.
<b>Physics and Astronomy (PH)</b>	M. Sc. in any branch of Science with Mathematics and Physics at B. Sc. level <b>OR</b> B. Tech. / M. Tech. in any branch of Engineering.
<b>School of Management (SM)</b>	B. Tech. / M. Tech. in any discipline <b>OR</b> MBA / M. Sc. / MA / M. Com.

#### D. Equivalent Degree / Specialization / Discipline

In the case of applicants not having exact Degree / Specialization / Discipline as mentioned above, but claim to have an equivalent Degree / Specialization / Discipline, onus of proving equivalency shall lie with the concerned applicant(s) by submitting applicable notifications issued by any Government controlling/regulatory body like MoE, UGC, AICTE, etc. Any notification and/or certification from the Institute/University/College of the applicants will not be acceptable. However, decision of the Institute shall be final and binding in this matter.

#### E. Applicants Awaiting Results

Applicants awaiting result of their qualifying degree are **NOT ELIGIBLE** for admission to Executive Programmes.

#### F. Residential Requirement / Class Timings

Students of Executive Ph.D. Programme need to attend a Contact Programme for 5 days (separately or in one go) per course during every semester till completion of course work and thereafter minimum 10 days (separately or in one go) each during every subsequent semester till their Synopsis Seminar. Accommodation in Hostel / Guest House may be provided subject to availability and on payment basis.

No accommodation will be provided to students of Executive Programmes.

#### G. Special Notes

- All educational qualifications must be from Govt. recognized Board/University/Institute only. In case of any doubt raised by the Institute, onus of proving validity of the qualification shall lie with the concerned applicant. However, decision of the Institute shall be final in this regard.

- b) If the evaluation system is in grades, CGPA value will be considered and if the evaluation system is in marks, percentage value will be considered.
- c) Applicants with any other relevant background may be considered only with specific approval of the Senate or Chairman, Senate on the recommendation of the Selection Committee.
- d) Students of one discipline may seek admission in a related department which will be considered by the Selection Committee on the basis of merit of the individual case(s).
- e) Selection will be made on the basis of academic record, relevance of qualification and/or experience. Therefore, merely submitting application will not guarantee admission.
- f) If required, any or all the departments may conduct selection test and/or interview to judge further suitability of the applicants.
- g) Selection Criteria may be different for different departments.
- h) All or any particular Programme may not be offered at the discretion of the Institute and if so decided, no liability will be assumed except refund of the Application Processing Fee without interest to the concerned applicants.

## H. Fee Structure

**Fee Structure for Executive Ph. D. [2024-25] will be as follows:**

Sl. No.	Fee Head	Executive Ph.D.
<b>[A]</b>	<b>One-Time Fees at the time of Admission</b>	
1	Application Fee	<b>1000</b>
2	Admission Fee Including hostel admission	<b>2500</b>
3*	Institute Emergency Fund	<b>10000</b>
4*	Caution Money (Refundable)	<b>5000</b>
<b>[B]</b>	<b>Semester Fees for every Semester</b>	
1*	Tuition Fee	<b>25000</b>
2	Other Fees (Examination, Library, etc.)	<b>3000</b>
<b>[C]</b>	<b>One-Time Fees at the time of Last Semester</b>	
1	Thesis Processing Fee	<b>20000</b>
2	Convocation Fee	<b>5000</b>

\* Fee against A-3, A-4 and B-1 will not be applicable to Institute Regular Employees joining with NOC.

Fee will be paid before admission and before commencement of every subsequent semester. Notice for payment of fees will be published in the website and may also be sent by email to the students. Late Fine of Rs. 1,000/- per month for Executive Ph.D will be applicable for delay in payment of Semester Fees.

### Refund of Fee

If a student withdraws/leaves himself/herself from the Institute after admission without completing the entire program, all fees paid including the caution money deposit will be forfeited by the institute. This clause is applicable only after admission but even before formal registration to the 1<sup>st</sup> semester and/or starting of classes.



## I. Application Fee and How to Apply:

Interested candidates satisfying the eligibility criteria are required to submit their **online application at <http://eapplication.nitrkl.ac.in>**. The applicants are advised to:

- a) Read this advertisement and the instructions to fill up the online application form given in the online portal carefully.
- b) Pay non-refundable Application Fee of Rs. 1000/- through SBI Collect only. No other mode of payment is acceptable. The applicant has to search **SBI COLLECT -> ODISHA -> EDUCATIONAL INSTITUTION -> DIRECTOR NIT ROURKELA -> APPLICATION FEE PHD and EPTP PROGRAMME**. After making successful payment of application fee, download the e-receipt from SBI Collect website and/or note down the SB Collect Reference Number. Application fee once paid shall not be refunded under any circumstances.
- c) Fill up the online application form at <http://eapplication.nitrkl.ac.in> with desired information and enter the SB Collect Reference Number in the “Update Application Fee Details” link given at homepage of <http://eapplication.nitrkl.ac.in> and SUBMIT the application.

Applicants are **NOT** required to send hard copy of the application form or any other document(s) to NIT Rourkela. Entries made in the Application Form will be accepted provisionally for selection purpose. Applicants who will be selected for admission will be required to submit a set of photo copies of all educational mark sheets, certificates and work experience and all originals for verification at the time of admission. Admission offer will stand cancelled if any disqualification is detected at the time of admission.

## J. Tentative Schedule for Application and Admission:

Sl. No.	Event	Tentative Date
1	Last date for submission of Applications	15.06.2024 (Saturday)
2	Publication of result of scrutiny in the website ('Notice Board' section)	21.06.2024 (Friday)
3	Test and/ Interview (Venue – NIT, Rourkela)/online	28.06.2024 (Friday)
4	Publication of result of Interview in the website	08.07.2024 (Monday)
5	Admission	16.07.2024 (Tuesday)
6	Semester Registration	22.07.2024 (Monday)
7	Starting of Class / Research work	23.07.2024 (Tuesday)

Applicants are required to visit the “**Notice Board**” section in the “Home Page” of the Institute website ([www.nitrkl.ac.in](http://www.nitrkl.ac.in)) regularly for updates and further notifications.

## K. Curriculum

Curriculum for the Executive Ph.D Programmes will be as follows. Syllabus will be made available to the admitted students by respective Faculty/Department.

Year	Semester	Per Semester
1 <sup>st</sup> Year	I & II	3 Courses [9 Credits]
2 <sup>nd</sup> Year	III & IV	3 Units of RP [9 Credits], and 1 Unit of STW [2 Credits]
3 <sup>rd</sup> Year	V & VI	3 Units of RP [9 Credits], and 1 Unit of STW [2 Credits]
4 <sup>th</sup> Year	VII & VIII	3 Units of RP [9 Credits], and 1 Unit of STW [2 Credits]
5 <sup>th</sup> Year	IX and X	3 Units of RP [9 Credits], and 1 Unit of STW [2 Credits]
6 <sup>th</sup> Year	XI and XII	4 Units of RP [12 Credits]

**RP – Research Practice, STW – Seminar & Technical Writing**

#### L. Examination and Academic Regulation

Attendance and passing requirements, standards of instruction, examination and evaluation methods and other regulations for the Executive Ph. D will be same as for the corresponding regular programmes which will be made available in the Institute website [<https://nitrkl.ac.in/eptp>] in due course of time.

#### M. Award of Degree

Provisional Degree and Statement of Marks will be issued immediately after publication of results. However Degree Certificate will be issued in the Annual Convocation which is normally held on the **3<sup>rd</sup> Saturday of January**.

#### N. How to Reach the Institute

Rourkela is located in the Howrah-Mumbai main Train route. Train connections are also available from Bhubaneswar and Ranchi. Night AC/Non-AC bus services are available from all major cities of Odisha (Bhubaneswar/Berhampur/Balasore, etc.). The Institute is located around 8 km. away from the Railway Station and 2 km away from Sector-3 Bus Stop. Usual rate of auto fare at present is Rs.160/- and Rs. 100/-, respectively. App based taxi services are also available from the Railway Station to the campus.

#### O. Contact Us

Applicants may contact at the following details for any query and/or further information relating to application, selection and admission to the Executive Ph. D. Programmes:

- Webpage - <https://nitrkl.ac.in/eptp>
- Email - [admission@nitrkl.ac.in](mailto:admission@nitrkl.ac.in)
- Telephone - **+91 661 246 4052**

**Sd/-  
Asst. Registrar (Academic-PG & Res.)**