

COEP Technological University (COEP Tech)

**A Unitary Public University of Government of Maharashtra
Wellesley Road, Shivajinagar, Pune-411005, Maharashtra, India**



INFORMATION BROCHURE & APPLICATION FORM

for

Admission to Doctor of Philosophy (Ph. D.) Program

Special Provisions for Working Professionals (WP)

AY 2024-25

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1. Preamble:

The admissions to PhD Programs in Engineering and Technology and newly initiated Sciences and Humanities, Management Studies from the month of December 2024 in COEP Technological University are on full time basis and with financial assistance as announced from time to time. The admission process comprises of Research Program Eligibility Test (RPET) followed by interviews. The applicants need to qualify the RPET with 50% score to be eligible for the interviews. Once the candidate gets selected for PhD program, s/he needs to complete the necessary course work within stipulated time and proceed ahead on the identified research problem in the laboratories for a period of two and half years or so.

The abovementioned usual two-step PhD admission process, coursework completion and research workplace discourage working professionals (WPs) despite interested in undertaking PhD program and work on contemporary and relevant problems which might have potential for filing patents or technology transfer. The working professionals from Industries, R&D organizations, Laboratories, Institutions, NGOs, Banking Institutions, and other organisation/Institutions (not limited to above) have access to quality infrastructure for advance research at their end and expertise locally available to take up advance research activities therein. Provisions to utilise this opportunity to carry out research work are not explicitly and readily spelt out.

COEP Tech belonging to 100 NIRF bracket and surrounded by hub of industries, R & D labs and Institutions could exploit the scenario and help aspirants from organizations/industry/academia to undertake research work with a win-win strategy and with the objective of enhancing research quality and also strengthening industry-institute interaction in true spirit. As envisaged in NEP 2020, the special provision laid down herein shall empower that cross section of the learners, who wish to enhance their qualifications at some stage of their professional life and contribute to research and technology advancement.

Thus, it is proposed to provide opportunity for PhD admissions to the working professionals of Industries, R&D organizations, Laboratories, Institutions, NGOs, Banking Institutions, and other organization/Institutions (not limited to above) complying following terms and conditions.

2. Ph.D. program offered by COEP Tech

The Doctor of Philosophy (Ph.D.) Program is offered by the following Departments in the related areas of specializations.

For PhD (Technology)	
Program Name	Broad Areas of Research
Civil Engineering	Environmental Engineering, Structural Engineering, Geotechnical & Transportation Engineering, Transportation Engineering, Geotechnical Engineering, Construction Management & Sustainable Construction, Water Resources Construction Management, Construction Engineering, Construction Techniques, Construction Materials, Construction Technology, Contract Management, Geospatial Technology, Building Drawings, Transportation Engineering Environmental Engineering, Solid Waste Hazard Mgmt., Industrial Waste Hazard Mgmt., Environmental Impact Assessment, Advance Hydraulic, Water Resource Management, Air & Noise Pollution, Environmental Sustainability, Irrigation Engg., Water Resource Management, Advanced Hydrology , Ground Water Hydrology, Open Channel Flow, Dam & Hydraulics Structure, Geospatial Technology. Structural Health Monitoring, Composite Materials, Performance Based Design for Tall Structures, Stability & Seismic Analysis of Cold-Formed Steel Structures, Geotechnical Engineering.
Computer Science & Engineering	AI & Image Processing, Machine Intelligence, Neural Networks, AI & Data Science, Cloud, Networking and Security, Cloud Virtualization, VM Management, Digital Forensics on Operating System, Fog (Edge) Computing, Federated Learning, Network Function Virtualization (NVF), Data Mining, Machine Learning, Big Data Analytics, Deep Learning, Database Design, Algorithms, Network and Information Security, Block Chain, Digital Forensics, IDS, Natural Language Processing, Text Mining, Deep Learning, Data Privacy, Cyber & Information Security, Blockchain, Security in web services, Mobile Application Development, Bioinformatics, Data Security, Robotics & AI, Data Mining, Web Application Security, Wireless & Mobile Security, Parallel & Distributed Computing, Deep Learning using GPU Architecture, Multicore Memory System Performance Issues, Cloud & Big Data Analytics, Data Pipeline, Cloud Platform Selection Application Based, Workflow Analysis of Cloud Based Application, Machine Learning for Data Analytics, Data Mining Algorithms for IOT Data Analytics, Optimization of Machine Learning Algorithms, Computer Network.
Electrical Engineering	Power and Energy Systems: Robust and Efficient System Planning, operation and Control, Renewable Energy Integration, Optimal Operation and Control of Power Systems, Power System Protection, Smart Grid, Operation and Control of Micro Grid etc. Power Electronics and Machine Drives: Converters for Renewable Energy and Electric Vehicles, E-mobility, Industrial Drives, Design and Development of Power Electronic Converters etc. Control Systems: Non-linear Systems and Control, Intelligent Control, Optimal Control, Industrial Control and Automation etc.
Electronics & Telecommunication Engineering	Optics & Sensing, Sensor Designing & Development, Biosensors, Bio-MEMS, VLSI Fabrication, Nanotechnology, Nanomaterials, Lab-On-Chip, Micro fluidics, Wireless Communication, Antenna & RF Technologies, Plasmonics, Experimental Physics, Digital Image Processing, Content-Based Image Processing, Deep Learning, AI & ML, IoT, Computer Vision, Signal Processing, Bio-Medical Applications.

Instrumentation & Control	Sliding Mode Control, Vehicle Technology, Image Processing, Process Control, Chemical & Gas Sensors, Smart Sensors, Analytical Instruments, Robotics & Control, Process Control, Medical Robotics, Robust Control, Power Electronics, Power Convertors & its Control, Battery Management System, Biomedical Instrumentation, Signal Processing & Extraction, Renewable Energy Control, Precision Automation, Soft Computing.
Manufacturing Engineering & Industrial Management	Micro Manufacturing, Condition Monitoring, Reliability Engineering, Electrical Discharge Machining, Friction Stir Welding, Manufacturing, CAD/CAM, Reverse Engineering, Additive Manufacturing, ERP, Computer Aided Inspection, Biomedical Device Development, Design for Manufacturing, Smart Manufacturing, Manufacturing Science & Engineering, Condition Monitoring, Manufacturing, Robotics, Manufacturing Engineering, Metrology & Quality Control, Application of AI in Manufacturing, Micromanufacturing, Electrochemical Micromachining, Micro Matching of Advanced Materials, New Product Development, Design for Manufacturing, Biomedical Device Development, Smart Manufacturing, Industry 4.0, Technologies in Manufacturing, DT, IOT, AM, CPS, MAAS/EAAS Mechatronics, Robotics & Manufacturing Automation, Supply Chain & Logistic Management, Production & Operations Management, ERP, Production & Industrial Engineering, Manufacturing Science & Engineering, Micromachining, Maintenance Engineering & Tribology, Non-Conventional Manufacturing, Product Design & Prototype.
Mechanical Engineering	MEMS, Dynamics, Vibration, Condition Monitoring, CFD, IC Engines, Alternative Fuels, Compliant Mechanism, Micro Manufacturing, AI-ML, Industrial Engineering, CAD/CAM/CAE, FEA, Biomaterials, Micro Machining, Laser Machining, Acoustics, Laser Welding, Design Engineering, Tribology, Reliability Engineering, Maintenance Manufacturing Management, Forming Processes, Rapid Prototyping, Composite Materials, Fracture Mechanics, Functional Graded Materials, Auxetic Materials, Heterogeneous Material Modelling, Human Body Segment Modelling, Integrated Thermal Management technology for BEV vehicle, Laser Material Processing, Biomechanics, AI/ML in enhancing product performance & capability, IoT in product development, Third party calibration of Industrial Robot, Redefining the sustainability in Agriculture using Robotization.
Metallurgy & Materials Engineering	Development Of Anode Materials For Solid Oxide Fuel Cell, Valorization Of Slag/Ash, Agricultural Waste Utilization & Biochar Development, Development Of Water Filter To Improve Boiler Efficiency, Sensor Materials For Precision Agriculture, Polymeric Materials, Plastic Waste Management, Nanomaterials & Their Synthesis, Nano Composites, Advanced Composites, Composites For Electronic, Tribological, Biomedical, Aerospace & Automobile Application Etc., Alloy Synthesis, Cryogenic Treatment, Tribology Of Materials, Energy Materials, E-Waste Management, Powder Metallurgy, Powder Metallurgy, 3 D Printing, Thermo-Mechanical Treatment, Corrosion & Surface Protection, Material Design & Property Optimization.
Planning	Urban & Regional Planning, Architecture, Town & Country Planning

For PhD (Science and Humanities)

Mathematics	Matroid Theory, Coding Theory, Graph Theory, Fractional Calculus, Computational Mathematics.
Physics	Linear and nonlinear optics, Nanotechnology, Magnetic materials, Gas sensor Nanotech materials
Chemistry	Chemistry
Environmental Science	Plant Ecology, Biology, Geology, Environmental Sciences
Humanities	Psychology, Design Thinking, Relationship, Emotional well being

3. Important dates:

<i>Process Information</i>	<i>Dates</i>
Commencement of online application form submission.....	15 th January 2025 (12 pm)
Closure of online application form submission.....	10 th February 2025 (8 pm)
Grievance period.....	11 th 12 th February 2025
Display of provisionally eligible candidates for RPET on the website.....	13 th February 2025 (9 pm)
COEP Tech's Offline RPET – (MCQ type) shall be conducted in campus.....	17 th February 2025
Display of shortlisted candidates for interview.....	17 th February 2025 (8 pm)
Interview dates of shortlisted candidates.....	20 th February 2025 (10 am)
Display of list of selected candidates for admission.....	21 st February 2025
Confirmation of admission at COEP Tech.....	28 th February 2025 (5 pm)

4. Application Processing Fee:

General Category candidates:	Rs. 1000/-
Reserved Category candidates: SC, ST, VJ/DT- NT(A), NT(B), NT(C), NT(D), OBC, SBC, EBC, EWS & Persons with Disability Candidates	Rs. 500/-
Foreign National /Overseas Citizen of India /Person of Indian Origin /Children of Indian Workers in Gulf Countries / Non Resident Indian	Rs. 5000/-

Application processing fee shall be paid online as per procedure given in Annexure –VI
Application Processing Fess is non-refundable.

5. Submission of the application:

All aspiring candidates shall submit their application form with necessary application fees (along with all the relevant certificates/documents) online through link available on - <https://www.coeptech.ac.in/admission/ph-d/Jan-25> (online submission of application without necessary scanned copy of certificates/documents will not be considered). Candidate should make sure that proper Institute/ Discipline are entered & all relevant details are duly filled in the respective fields.

Access to the link for *online submission of application opens on 15.01.2025. Last date for the online submission of application is 10.02.2025 at 5.00 pm.*

6. Online link to fill Ph.D. application form: <https://phdadmission.coep.org.in/>

7. Eligibility for Admission

Educational Qualification:

Eligibility criteria for securing admission are as per University Grant Commission (UGC) (Minimum Standards & Procedures for Award of Ph.D. Degree No. CG-DL-E-07112022-240086) & COEP Technological University (COEP Tech), PhD Program latest Rules & Regulations.

- For eligibility criteria candidates must read “Guidelines, Rules and Regulations Governing Ph.D Programs w.e.f. December 2024”

All the applications will be scrutinized/shortlisted based on data submitted by the candidate in the online application form. If, at any stage, candidates found to have furnished false or wrong data/

information, their candidature/admission will be rejected/cancelled.

Sr. No.	Name of the Department	Eligibility for Ph.D.
1)	Engineering and Technology	<p>A 2-year/ 4-semester master's degree in engineering/technology programme after a 4-year/8-semester bachelor's degree engineering/technology programme or qualifications declared equivalent to the master's degree by the corresponding statutory regulatory body, with at least 55% marks at masters in aggregate or its equivalent grade in a point scale wherever grading system is followed.</p> <p style="text-align: center;">OR</p> <p>Equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized, or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution.</p>
2)	Sciences and Humanities	<p>A 2-year/4-semester master's in science/master's in Humanities/ master's in computer applications after a 3-year/4-year Bachelor of Science/Humanities/Computer Applications program or qualifications declared equivalent to the master's science by the corresponding statutory regulatory body, with at least 55% marks at masters in aggregate or its equivalent grade in a point scale wherever grading system is followed.</p> <p style="text-align: center;">OR</p> <p>Equivalent qualification from a foreign educational institution accredited by an assessment and accreditation agency which is approved, recognized, or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country to assess, accredit or assure quality and standards of the educational institution.</p>
3)	Planning	<p>A 1-year/2-years master's degree in planning/Remote Sensing/GIS or equivalent professional degree (after a 4-year Bachelor's degree in Planning/Architecture/Civil Engineering), with at least 55% Marks or or its equivalent grade in a point scale wherever grading system is followed.</p> <p style="text-align: center;">OR</p> <p>Equivalent degree from a foreign educational institution accredited by an Assessment and Accreditation Agency which is approved, recognized or authorized by an authority, established or incorporated under a law in its home country or any other statutory authority in that country for the purpose of assessing, accrediting or assuring quality and standards of educational Institutions.</p>

Mandatory Eligibility Criteria	<p>Working professionals of Industries/Corporate, R&D organizations, Laboratories, Institutions, NGOs, Banking Institutions, and other organization/Institutions (not limited to above) with MTech / MSc / MCA / MBA / MCom / MA will be eligible to apply for respective research studies as mentioned in section 3 Eligibility Criteria of PhD Rules and Regulations.</p> <p>At the time of submitting the application, the candidate should be working in Industry, research Lab and should have at least 2 years of work experience.</p> <p>The candidate is required to submit the name and credentials of mentor/researcher from industry having a PhD degree for co-supervising the research work.</p>
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- A relaxation of 5% in marks or 0.5 in CGPA (where equivalence between percentage and CGPA is not declared) for candidates belonging to constitutionally declared reserved categories, persons with disability, and other categories of candidates as per policies of the Government of Maharashtra prescribed from time to time.
- Candidates with Junior/Senior research fellowships from CSIR/ UGC/ DST/ ISRO/ BARC/ DRDO/ any recognized/authorized Government organization entitled to offer such award can be considered for admission to the Ph.D. Programme if he/she has a minimum of 2 years of professional work experience and fulfils criterion mentioned in above eligibility criteria table.
- Candidates working in National Laboratories/Institutes of National Importance/Government sector/ Industry/ Corporate who are nominated/sponsored by the respective employer and fulfils criterion mentioned in above eligibility criteria table.
- A graduate in Engineering/Technology (B.E./B.Tech.) with an outstanding academic record (more than 75% marks or CGPA of 8.0 on a 10-point scale) may be permitted by the RRC subcommittee on the recommendations of respective DRC to submit his/her proposal for admission to Ph.D. Programme in that discipline. A relaxation of 5% in marks or 0.5 in CGPA for candidates (where equivalence between percentage and CGPA is not declared) belonging to constitutionally declared reserved categories, persons with disability, and other categories of candidates as per policies of the Government of Maharashtra prescribed from time to time.
- Above-mentioned rules in this section will also be applicable to foreign candidates who have obtained Master's degree from statutory Indian Universities.
- Application for inter-disciplinary areas and from applicants belonging to a faculty/domain/discipline other than the faculty/domain/discipline in which it is proposed and from the international candidates (those who have not obtained the degree from Indian Universities) shall be considered based on the proven ability and aptitude test. Such a proposal shall be examined by the DRC and the RRC subcommittee for giving provisional admission. The admission will be confirmed after the RRC approves the broad domain area and outline of the proposed research.
- A candidate is supposed to work with a supervisor in a normal Programme, but as a very special case, the RRC may allow a candidate to register for Ph. D. independently, i.e., without having to work under the direction of a supervisor, provided that the candidate is eligible and has demonstrated ability to undertake the proposed research independently.
- Ongoing Masters Candidates of the University with outstanding performance in their first year are eligible for admission to an integrated Ph.D. Programme in the concerned discipline on recommendation from the Supervisor, DRC and approval from RRC subcommittee

8. Procedure for Admission to Ph.D. programs

- a. The admission shall be based on the criteria notified by the university, keeping in view the guidelines/norms in this regard issued by the UGC & other statutory/regulatory bodies concerned, & taking into account the reservation policy of the Maharashtra State Government / University guidelines from time to time. If, at any stage, candidates found to have furnished false or wrong data/ information; their candidature/admission will be rejected/cancelled.
- b. Admission to the Ph.D. program shall be made using the following methods:
 - i. Aspiring candidates must read the “Guidelines, Rules and Regulations Governing Ph.D Programs w.e.f. December 2024”
 - ii. The selection of candidates eligible for exemption of COEP TECH's Research Program Eligibility Test (RPET) will be based on personal interview.
The selection of candidates appears for COEP TECH's Research Program Eligibility Test (RPET) will be based on RPET valid score and personal interview.
 - iii. University may admit students through an Entrance Test (RPET) conducted at the level of the individual. The Entrance Examination will be of 100 marks with multiple choice type questions. The examination will consist of two papers, each carrying 50 marks: Paper I (Research Methodology) and Paper II (Mathematics).
 - iv. Students who have secured aggregate of 50% marks in the entrance test shall be eligible to be called for the interview.
 - v. A relaxation of 5% (from 50 to 45 %) marks will be allowed in the entrance examination for the candidates belonging to SC/ST/OBC/persons with disability, Economically Weaker Section (EWS), SEBC, & other categories of candidate as per the decision of the university from time to time.
 - vi. University may decide the number of eligible students to be called for an interview based on the number of Ph.D. seats available.
 - vii. The candidates securing a minimum of 50 % marks in the RPET exam, or a GATE/NET/SET/CSIR qualified candidate shall be eligible to be called for the interview. The interview will solely be the criteria for selection of candidate for PhD admission. During the interview, candidates will be interviewed by a panel of experts & PhD guides.
 - viii. The FN/OCI/PIO/CIWGC/NRI candidates shall submit the necessary documents as mentioned in **Appendix V** through email to phdadmission@coeptech.ac.in. These candidates shall fill the online application form before sending the documents through email.
 - ix. While filling the application form keep the scanned copy of the following documents ready.
 - a. Proof of identity (Copy of Aadhar card/ Passport/ Driving License).
 - b. Proof of qualification (UG & PG marksheet, as applicable).
 - c. Cast Certificate & Certificate of Validity, if applicable.
 - d. Non-Creamy Layer Certificate as mandated for the particular category.
 - e. Valid GATE/NET/SET/CSIR scorecard in case of exemption from RPET.
 - f. Proof of experience.
 - g. No Objection Certificate from the employer.

- h. Migration Certificate.
- i. Any other Document supporting exemption for RPET.
- j. Statement of Purpose (Research Topic – One page summary).

9. Exemption from the Written Test

The following candidates shall be exempted from Written Test:

- i. Candidates qualified, having valid scores in GATE/NET/SET & any other JRF holder of the apexbodies like CSIR/ UGC/ ICAR/ ICMR/ DBT/ DST/ ICSSR.
- ii. Ph.D. degree holder of any recognized University who desires to pursue Ph.D. at COEP Tech

10. Types of Ph. D. candidates, Fee structure:

SN	Category	Remarks
1	Working Professionals	Candidates with at least 2 years of professional experience refer “Guidelines, Rules and Regulations Governing Ph.D Programs w.e.f. December 2024”

For Fee structure refer web site refer <https://www.coeptech.ac.in/administration/university-sections/academic-section/fees-structure/>.

11. General Instructions:

For detailed information on rules & regulations, syllabus, criteria for exemption in RPET & schedules, Click the URL mentioned below –

<https://www.coeptech.ac.in/admission/ph-d/Jan-25>

In case of queries related to seats available as per the category in respective departments, the candidate can contact the respective departmental PhD coordinators as mentioned in given URL – <https://www.coeptech.ac.in/admission/ph-d/Jan-25>

- In case of any grievance or dispute, the decision of the Vice Chancellor, COEP Technological University, Pune is final & binding.
- It is the responsibility of the applicant to fulfil eligibility conditions & fulfil admission compliance. If candidate found to have submitted falsified information will be disqualified at any other stage and in such case, fees paid will not be refunded.
- It is the responsibility of the applicant to fulfil eligibility conditions & comply with the admission requirements. If, at any stage, it is noticed that the candidate or important material facts have made a false claim have been concealed and / or the candidate is not eligible, his candidature shall be liable for cancellation at any stage.
- *Incomplete applications or applications without uploading documents or applications without required fee & fee receipt or applications submitted after the due date*, will be rejected without assigning any reason. The COEP Technological University will not entertain any correspondence in this regard.
- Please check the vacancy positions for admission displayed on the website.
- Results disclosed for the candidates at RPET & interview stages will be stated as Qualified or Not Qualified, which will be declared on the website.
- RPET exam seating arrangements and time schedule will be displayed at the COEP Tech University website. Therefore, candidates are requested to visit the University website for regular updates.
- Working professionals of Industries/Corporate, R&D organizations, Laboratories, Institutions, NGOs, Banking Institutions, and other organization/Institutions (not limited to above) with MTech / MSc / MCA / MBA / MCom / MA will be eligible to apply for respective research studies as mentioned in section 3 Eligibility Criteria of PhD Rules and Regulations.
- Qualification of GATE/ NET/ CAT/ GMAT or similar Exams is not mandatory for admission to PhD (WP) program.
- A special admission drive will be announced quarterly every year for admissions to PhD (WP) program. The candidates need to appear for Entrance Test to substantiate their research aptitude and comprehensive proposal of proposed research work if not possessing valid GATE/ NET/ CAT/ GMAT score. The final selection to the PhD (WP) program shall be based on interview by a panel comprising of DRC members, External Subject Experts outside the University.
- At the time of submitting the application, the candidate should be working in Industry, research Lab and should have at least 2 years of work experience.
- The working professionals seeking admission to PhD (WP) programs are required to submit a proof of “Present Employment Certificate” from the employer at the time of submitting PhD application forms.
- The candidate is required to submit the name and credentials of mentor/researcher from industry

having a PhD degree for co-supervising the research work.

- A PhD student may utilise on-campus or off-campus (his/her workplace) research facilities for pursuance of his/her research.
- Such a working professional may complete the course requirement using course registration in SWAYAM/NPTEL/COEP Tech course, etc. (In Online/Offline Mode), in consultation with the research supervisor and co-supervisor.
- If the course offered by the COEP Tech University (In Online/ Offline Mode) is registered by the PhD student, he/she would need to appear in formative and summative assessment (online/offline), as per the schedule of the registered course. The course instructor shall award the marks and grades and communicate to the Examination Cell.
- A student shall have to complete the course work and research credits requirements as per the details mentioned for regular PhD program, as mentioned in section 10 of PhD Rules and Regulations.
- The minimum duration required to submit the PhD thesis would be 48 months (4 years) from the confirmation of registration of PhD (WP) program while the maximum duration will be 84 months (7 years).
- The research papers/patents/technology transfers resulting from such research work will be the joint property of both the University and the Sponsoring Organization, and the benefits will be proportionately shared.
- The section 15 of PhD Rules and regulations on ‘Synopsis of Thesis’ shall apply to all such research students for the conduct of Pre-synopsis Seminar followed by the submission of Thesis.
- The JRF to SRF schemes and financial assistance shall not be applicable to the candidates admitted to PhD (WP) programs.
- Such admitted students failing to complete PhD for any reasons may be allowed to get a certificate of courses passed by him/her at the time of exit.
- All other modus operandi aspects are as per the PhD Rules and regulation published and updated by the University.
- The terms and conditions specified in this section supersedes the respective PhD Rules and Regulations published and updated by the University.

For any general query, contact: phd admission@coeptech.ac.in

Appendix –I

List of Documents to be attached along with application form

Attested photocopies of following documents/certificates should be attached with the application form at the time of submission. If a candidate fails to submit applicable documents/certificates along with application form, he/she will not be shortlisted for Ph. D. admission 2024-25.

Sr. No.	Type of Candidate	Copies of documents to be produced along with Application Form for Admission
1.	All Candidates	<ol style="list-style-type: none"> 1. Graduation degree certificate 2. Final year marks list / grade sheet 3. Post graduate degree certificate 4. Post graduate Final year marks list / grade sheet 5. Receipt of application processing Fee 6. Statement of purpose from the candidate (one page justifying the research area)
2.	Nationality Certificate	<p>In lieu of this “<i>Certificate of Indian Nationality</i>” following Certificates/Documents will also be acceptable-</p> <ol style="list-style-type: none"> 1. Indian Passport in the name of the Candidate, issued by appropriate authorities. 2. The School Leaving Certificate indicating the Nationality of the Candidate as ‘Indian’. 3. Birth Certificate of the Candidate indicating the Place of birth of the Candidate is within India.
3.	Backward class Candidates belonging to S.C. / S.T.	<ol style="list-style-type: none"> 1. Caste/Tribe certificate 2. Caste/Tribe validity certificate
4.	Backward class Candidates belonging to VJ/DT-NT(A)/ NT(B) / NT(C) / NT(D) /O.B.C/ SBC/SEBC	<ol style="list-style-type: none"> 1. Caste certificate 2. Caste validity certificate 3. Non creamy layer certificate @ valid up to 31st March 2025.
5.	Persons with Disability (if applicable):	<p>The candidate claiming to be physically handicapped shall produce a certificate from the Director, All India Institute of Physically Handicapped, Mumbai or Dean/Civil Surgeon of the Government / CIVIL HOSPITALS normally located at the District Headquarters, regarding his or her physical disability, & ability to undergo all parts of syllabus for the normal course. Candidates suffering from Dyslexia, Dysgraphica & Dyscalculia are required to produce certificate issued by the ‘Learning Disability Clinic, Lokmanya Tilak Municipal General Hospital, Sion, Mumbai-22.</p>
6.	Economically Weaker Section (EWS) Candidate	<p>In addition to the documents mentioned in Sr. No. 1 above, Eligibility Certificate for Economically Weaker Section (Appendix-IV) valid for 2024-25</p> <p>सामान्य प्रशासन विभाग शासन निर्णय क्रमांक राआधो/४०१९ प्र.क्र. ३१/१६ अ, दिनांक ३१.०५.२०२१ आर्थिक दृष्ट्या दुर्बल घटकासाठी विहित केलेल्या आरक्षणाचा लाभ घेण्यासाठी पात्रतेसाठीचे प्रमाणपत्र (GR Code २०२१०५३११२५०५९९४०७)</p>
7.	Working Professionals	<p>Present Employment Certificate (Appendix-II) Registration for the Co-Supervision (Appendix-III)</p>

9.	Foreign Candidate	Refer (Appendix-V) and send the applicable document on email.
10.	Other documents as applicable	Proof of Exemption for Written test
		Statement of purpose from the candidate (one page justifying the research area) (Appendix-VIII)
		Copy of first page of research papers published in journal / conferences

Appendix II

Present Employment Certificate for joining PhD (WP) Program (For Working Professionals)

(This should be typed on a letterhead of the organization where the candidate is employed)

Date:

To

The Vice Chancellor,

COEP Tech University, Pune – 411 005.

Sub: Present Employment certificate

Dear Sir/Madam,

We hereby affirm that Mr./Mrs./Ms.a regular employee of this organization from *(Date of joining the organization)*. The certificate is being issued on his/her request for seeking admission to Ph.D. Programme for Working Professionals (WP) at COEP Tech University, Pune in against the advertisement in *(Month and Year)*.

Signature and Seal of the Authority

Appendix III

Registration for the Co-Supervision of the PhD (WP) program

Date:

1.Name of the organization: Address:

2.Present Designation of the applicant:

3.Division/Department/Section where research work is proposed to be done:

4.Name of Co-Supervisor (from the organization):

(Biodata of Co-Supervisor to be enclosed giving details of experience, academic and research work etc.)

5.Details of facilities relevant to the research problem made available to the candidate by the organization.

6.Statement of the Co-Supervisor.

If Mr./Mrs./Ms. is registered for the Ph.D. degree, I agree to act as his/ her research Co-Supervisor jointly with the research Supervisor from the University.

Signature of External Co-Supervisor

Appendix-IV

(For candidate claiming seats reserved for Economically Weaker Section Candidates)

सामान्य प्रशासन विभाग, शासन निर्णय क्र.राआधो ४०१९/प्र.क्र.३१/१६-अ, दि. ३१/०५/२०२१ सोबतचे सहपत्र

परिशिष्ट - अ
महाराष्ट्र शासन

प्रमाणपत्र क्र.

फोटो

वर्ष _____ करीता ग्राह्य
आर्थिकदृष्ट्या दुर्बल घटकाच्या पात्रतेसाठी प्रमाणपत्र

सामान्य प्रशासन विभाग, शासन निर्णय क्र. राआधो ४०१९/प्र.क्र.३१/१६ अ, दिनांक ३१/०५/२०२१ अन्वये
(आर्थिकदृष्ट्या दुर्बल घटकासाठी विहित केलेल्या १०% आरक्षणाचा लाभ घेण्यासाठी)

प्रमाणित करण्यात येते की, श्री/श्रीमती/कुमारी _____ श्री/श्रीमती-----
----- यांचा/यांची मुलगा/मुलगी गाव/शहर -----तालुका -----जिल्हा/विभाग -----
-- महाराष्ट्राचे रहिवासी आहेत. तो/ती ----- जातीचे असून जात /पोटजात/ वर्ग चे असून सदर जात
महाराष्ट्र राज्य लोकसेवा (अनुसूचित जाती, अनुसूचित जमाती, निरधीसूचित जमाती (वि.जा.) भटक्या जमाती
(भ.ज.), विशेष मागास प्रवर्ग (वि.मा.प्र) आणि इतर मागास प्रवर्ग (इ.मा.व) यांच्या साठी आरक्षण) अधिनियम, २००१
(सन २००४ चा महाराष्ट्र अधिनियम ८) या मध्ये नमूद केलेल्या प्रवर्गांतर्गत होत नाही.

महाराष्ट्र शासन, सामान्य प्रशासन विभागाचा शासन निर्णय क्र. राआधो ४०१९/प्र.क्र.३१/१६ अ, दिनांक
१२ फेब्रुवारी २०१९ अन्वये त्याच्या/तिच्या कुटुंबाचे स्रोतांचे एकत्रित वार्षिक उत्पन्न रु. -----/-
असून, सदर उत्पन्न रु.८,००,०००/- पेक्षा कमी आहे. त्यामुळे असे प्रमाणित करण्यात येत आहे की, तो/ ती यांचा
आर्थिकदृष्ट्या दुर्बल घटकामध्ये समावेश होतो.

ठिकाण:

दिनांक:

(शिक्का)

सक्षम प्राधिकारी /तहसिलदार

स्वाक्षरी :

नाव :

पदनाम :

हे प्रमाणपत्र अर्जकर्त्याने सादर केलेल्या खालील कागदपत्र/पुरावे यांच्या आधारावर निर्गमित करण्यात येत
आहे.

- १.
- २.
- ३.

(टिप: सामान्य प्रशासन विभाग, शासन निर्णय क्र.राआधो ४०१९/प्र.क्र.३१/१६-अ, दि.१२/०२/२०१९, नुसार आर्थिक दुर्बल
घटकासाठीच्या आरक्षणाचा लाभ घेण्यासाठी पात्रता प्रमाणपत्र देण्यासाठी सक्षम प्राधिकारी म्हणून तहसिलदार यांना
घोषित करण्यात आले आहे.)

Appendix-V

Documents required for FN/OCI/PIO/CIWGC/NRI candidates

1	Foreign nationals / Foreign Students	<ol style="list-style-type: none"> 1. Eligibility Certificate from the Association of Indian Universities, New Delhi (AIU) if candidate passed Qualifying examination from abroad. 2. Passport of the Candidate. 3. Affidavit of candidate/Parent disclosing his full identity i.e. full name, age, residence, occupation, relationship with candidate duly signed by the Candidate/parents. 4. Proof of residence i.e. Driving Licence or Telephone Bill of candidate 5. Statement of Marks or Certificate of Passing SSC / Equivalent Examination. 6. Statement of Marks or Certificate of Passing HSC / Equivalent Examination. 7. Statement of Marks or Certificate of Passing Qualifying / Equivalent Examination
2	Persons of Indian Origin	<ol style="list-style-type: none"> 1. Eligibility Certificate from the Association of Indian Universities, New Delhi (AIU) if candidate passed Qualifying examination from abroad. 2. Passport of the Candidate. 3. PIO / OCI Card. 4. Affidavit of candidate/Parent disclosing his full identity i.e. full name, age, residence, occupation, relationship with candidate duly signed by the Candidate/parents. 5. Proof of residence i.e. Driving Licence, Telephone Bill, Property Tax copy, IT return copy of sponsor 6. Statement of Marks or Certificate of Passing SSC / Equivalent Examination. 7. Statement of Marks or Certificate of Passing HSC / Equivalent Examination 8. Statement of Marks or Certificate of Passing Qualifying / Equivalent Examination.
3	Children of Indian Workers in Gulf Countries (CIWGC)	<ol style="list-style-type: none"> 1. CIWGC Certificate of the Candidate OR of his/her Mother or Father 2. Affidavit of candidate/Parents disclosing his full identity i.e. full name, age, residence, occupation, relationship with candidate duly signed by the Candidate/parents. 3. Passport, Nationality Certificate of Parent. 4. Residence of parent in Gulf Countries, Valid VISA of Parent 5. Work Permit or Letter from the Employer on Company Letterhead. 6. Proof of residence i.e. Driving Licence, Telephone Bill, Property Tax copy, IT return copy of Parent 7. Proof of residence showing minimum 182 days of stay of Parent in Gulf Countries for the academic year of admission, prior to the admission date 8. True copy of Gulf bank account passbook (copies of main page indicating bank name & address, Parent name & address, with entries of last preceding 6 months prior to admission) 9. Eligibility Certificate from the Association of Indian Universities, New Delhi (AIU) if candidate passed Qualifying examination from abroad. 10. Statement of Marks or Certificate of Passing SSC / Equivalent

		<p>Examination.</p> <p>11. Statement of Marks or Certificate of Passing HSC / Equivalent Examination.</p> <p>12. Statement of Marks or Certificate of Passing Qualifying / Equivalent Examination</p>
4	Non Resident Indian	<p>1. NRI Certificate of the Candidate OR of his/her Mother or Father OR the real brother/real sister ordinarily residing abroad OR NRI certificate of the persons having blood relation with the student who consider such student as 'Ward' viz-real brother/sister of father OR real brother/sister of Mother OR father/mother of father OR father/mother of Mother OR 1st degree paternal/maternal cousins, ordinarily residing abroad and should have looked after the candidate as guardian with documentary evidence & affidavit in support of the aforesaid facts. Parents CDC (Continuous Discharge certificate) if claimant is Merchant Navy employee.</p> <p>2. Affidavit of candidate/sponsor disclosing his full identity i.e. full name, age, residence, occupation, relationship with candidate duly signed by the Candidate/parents/sponsor.</p> <p>3. Passport, Nationality Certificate of sponsor</p> <p>4. Residence of NRI, Valid VISA of sponsor</p> <p>5. Proof of residence i.e. Driving Licence, Telephone Bill, Property Tax copy, IT return copy of sponsor</p> <p>6. Proof of residence showing minimum 182 days of stay of sponsor in abroad for the academic year of admission, prior to the admission date</p> <p>7. True copy of foreign bank account passbook (copies of main page indicating bank name & address, sponsor name & address, with entries of last preceding 6 months prior to admission)</p> <p>8. Affidavit of family chart duly signed by sponsor making clear relationship</p> <p>9. Leaving certificates, Birth extracts, mark sheets, PAN Card, Passport, Marriage Certificate of all members shown on family tree/chart.</p> <p>10. Eligibility Certificate from the Association of Indian Universities, New Delhi (AIU) if candidate passed Qualifying examination from abroad.</p> <p>11. Statement of Marks or Certificate of Passing SSC / Equivalent Examination.</p> <p>12. Statement of Marks or Certificate of Passing HSC / Equivalent Examination</p> <p>13. Statement of Marks or Certificate of Passing Qualifying / Equivalent Examination</p>

Appendix-VI

Steps to be followed for making online payment

Step 1 Go to the mentioned link for SBI-Collect:

<https://www.onlinesbi.sbi/sbicollect/icollecthome.htm>

Step 2 Select Category

“Educational Institutions”



Educational Institutions

Step 3 Write **“COEP Technological University”** in the search tab.

Select Payee

Category: Educational Institutions

Search for Educational Institutions

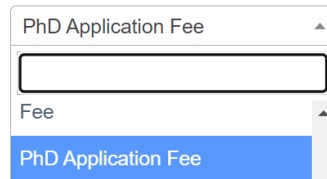


After Selecting the institute

Step 4 a. name, in *‘Enter Payment’* details: **Payment Category** as **PhD Application Fee.**

Payment Category*:

Name *



The screenshot shows a dropdown menu with 'PhD Application Fee' selected. Below the dropdown is a text input field with the word 'Fee' next to it.

Step 4 b. Fill in your details in the tab. In the next tab, Verify Payment details. After verification of your details Complete your payment.

Step 5 After Payment of the fees, select the Print Receipt option and save the pdf file. Use this pdf-file for online submission purpose.

Appendix –VII

COEP Technological University Pune

Syllabus for Ph.D. (RPET) Entrance Exam

PAPER-I

Foundation of Research: Meaning, Objectives, Motivation, Utility. Concept of theory, empiricism, deductive and inductive theory, Characteristics of scientific method - understanding the language of research - Concept, Construct, definition, Variable. Research Process,

Problem Identification & Formulation: Definition and formulating the research problem, Necessity of defining the problem, Importance of literature review in defining a problem, Research Question - Investigation Question - Measurement Issues – Hypothesis- Qualities of a good hypothesis - Null hypothesis & Alternative Hypothesis. Hypothesis Testing - Logic & importance

Research Design: Concept and Importance in Research - Features of a good research design - Exploratory Research Design - Concept, Types and uses, Descriptive Research Design - concept, types and uses. Experimental Design - Concept of Independent & Dependent variables.

Qualitative and Quantitative Research: Qualitative - Quantitative Research - Concept of measurement, causality, generalization, replication. Merging the two approaches.

Data Collection and analysis: Execution of the research - Observation and Collection of data - Methods of data collection, hypothesis-testing - Generalization and Interpretation.

Measurement: Concept of measurement - what is measured? Problem in measurement in research - Validity and Reliability. Levels of measurement - Nominal, Ordinal, Interval, Ratio.

Sampling: Concept of Statistical population, Sample, Sampling Frame, Sampling Error, Sample size, Non Response. Characteristics of a good sample. Probability Sample - Simple Random Sample, Systematic Sample, Stratified Random Sample & Multi-stage sampling. Determining size of the sample - Practical considerations in sampling and sample size.

Data Analysis: Data Preparation-Univariate analysis (frequency tables, bar charts, pie charts, percentages), Bivariate analysis - Cross tabulations.

Interpretation of Data and Paper Writing: Layout of a Research Paper, Journals in Engineering/Technology / Sciences/Humanities and Planning, Impact factor of journals, When and where to publish? Ethical issues related to publishing, Plagiarism and Self-Plagiarism. Meaning of H Index and I 10 Index. Intellectual Property Rights, Innovations.

Reasoning and Mental ability: Analogy, Classification, Series, Coding-Decoding, Direction Sense, Representation Through Venn Diagrams, Mathematical Operations, Arithmetical Reasoning, Inserting the Missing Character, Number, Ranking and Time Sequence Test, Eligibility Test, Representation through Venn-diagrams, Number & symbols ordering, Comprehension questions, Statement & assumptions, Statement & conclusions, Statement & actions

Books Recommended

- Research Methodology - C. R. Kothari
- Research Methodology: An Introduction - Stuart Melville and Wayne
- Practical Research Methods - Catherine Dawson

REFERENCES

- Garg, B. L., Karadia, R., Agarwal, F. and Agarwal, U. K., 2002. An introduction to Research Methodology, RBSA Publishers.
- Kothati , C.R., 1990. Research Methodology: Methods and Techniques. New Age International.

418p.

- Sinha, S. C. and Dhiman, A. K., 2002. Research Methodology, Ess Ess Publications. 2 columns.
- Trochim, W. M. K., 2005. Research Methods: the concise knowledge base, Atomic Dog Publishing. 270p
- Wadehra, B. L. 2000. Law relating to patents, trade marks, copyright designs and geographical indications. Universal Law Publishing.

Additional reading

- Anthony, M., Graziano, A. M. and Raulin, M. L., 2009. Research Methods: A Process of Inquiry, Allyn and Bacon.
- Carlos, C. M., 2000. Intellectual property rights, the WTO and developing countries: the TRIPS agreement and policy options. Zed Books, New York.
- Coley, S. M. and Scheinberg, C. A., 1990, "Proposal Writing", Sage Publications.
- Day, R. A., 1992. How to Write and Publish a Scientific Paper, Cambridge University Press.
- Fink, A., 2009. Conducting Research Literature Reviews: From the Internet to Paper. Sage Publications
- Leedy, P. D. and Ormrod, J. E., 2004 Practical Research: Planning and Design, Prentice Hall.
- Satarkar, S. V., 2000. Intellectual property rights and Copy right. Ess Publications.

PAPER-II

Logic and Set Theory : Sets, operations on sets, functions, pigeonhole principle, well-ordering principle, principle of mathematical induction, number system, fundamental theorem of arithmetic, GCD and LCM of numbers, polynomials, modular arithmetic, reasoning, deductive arguments, Venn diagrams

Analytical Geometry : Equations of straight line, circles, conics, plane, space curves, tangent and normals to curves.

Basic Algebra : Quadratic equations, their roots and properties, permutation and combinations and related formulae, binomial theorem.

Matrices and Determinant : Types of matrices, algebra of matrices, properties of matrix multiplication, inverse of a matrix, concept of rank, system of linear equations, Cramers's rule. Determinants, minors and cofactors and their properties, solutions of a linear systems of equations, condition of consistency.

Vector Algebra : Representation of vectors, coplanar and non-coplanar vectors, resultant of two vectors, angle between two vectors, scalar product, dot product, gradient, curl and divergence.

Complex Numbers : Algebra of complex numbers, square root of a complex number, geometrical representation of a complex number, polar form, De Moivre's theorem, roots of unity, Cauchy- Riemann equations.

Statistics and Probability : Random experiment, sample space, types of events, concept of probability, independent events, conditional probability, Baye's theorem, mean, mode, variance.

Books Recommended

- A Foundation Course in Mathematics, Ajit Kumar, S. Kumeresan and Bhaba Kumar Sarma, Narosa Publication House
- Elementary Number Theory, David M. Burton, Tata McGraw Hill, Sixth Edition.
- Complex Variables and Applications, James Ward Brown and Ruel V. Churchill, Mc-Graw Hill, Seventh Edition.
- Introduction to Real Analysis by R.G. Bartle and D.R. Sherbert, John Wiley and Sons Inc, Fourth Edition.
- Analytic Geometry in Two and Three Dimensions : Von Steuben
- Analytical Solid Geometry: Shantinarayan; S. Chand and Company Ltd, New Delhi, 1998.
- Introduction to Real Analysis by R.G. Bartle and D.R. Sherbert, John Wiley and Sons, Inc., Fourth Edition.

Appendix –VIII

COEP Technological University Pune

STATEMENT OF PURPOSE

The Statement of Purpose (SOP) is your opportunity to communicate your thoughts and feelings about pursuing research at COEP Tech Pune, as well as your preparation for this endeavor. Please provide a brief overview of any past projects or research work you have completed. Keep your response to 500–600 words. This personal SOP will assist the admission committee in evaluating your application.

1. Name: _____

2. Program of Study (Ph.D.): _____

3. Department: _____

Date: _____

Signature with Name