

**JADAVPUR UNIVERSITY
KOLKATA – 700032**

FACULTY OF ENGINEERING & TECHNOLOGY

(Notice No. FET/Ph.D./01/2025; Date:24/07/2025)

ADMISSION TO THE PH.D. (ENGINEERING AND PHARMACY) PROGRAMME: 2025

Applications are invited from Indian nationals for admission to the Ph.D. (Engineering and Pharmacy) programme under the Faculty Council of Engineering & Technology, Jadavpur University. Please note the following before filling up the application form available from university admission portal (<https://admissionju.jadavpuruniversity.in/fengadmission/home>).

1. Eligibility Criteria:

- (a) Candidates who have completed a Bachelors' Degree in engineering/ architecture/pharmacy/ technology or an equivalent professional qualification followed by M.E./M.Arch./M.Pharm./M.Tech. or MS (of min 2 years duration) or M.Sc. in Engineering and/or equivalent integrated course, with a minimum 5 years duration in total whatsoever the case may with at least 55% marks in aggregate; Or its equivalent grade in a point scale wherever grading system is followed or 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.
- (b) A candidate seeking admission after a 2/3 year (4/6 semester) MCA degree programme should have a minimum of 65% marks in aggregate, or its equivalent grade in a point scale wherever grading system is followed.
- (c) A candidate seeking admission after a 4-year / 8-semester bachelor's degree programme in Engineering/Technology/Architecture/Pharmacy or an equivalent professional qualification should have a minimum of 75% marks in aggregate or its equivalent grade on a point scale wherever the grading system is followed.
- (d) A relaxation of 5% marks or its equivalent grade may be allowed for those belonging to SC/ST/OBC (non-creamy layer)/Differently-Abled, Economically Weaker Section (EWS) and other categories of candidates or as per the decision of the Commission from time to time.

2. Candidates have to pay the non-refundable application fee of **Rs. 500/-** (for each Departmental Ph.D. programme) online through **SBI Collect** System using Credit Card/Debit Card/Net Banking. The application fee (**Rs. 500/-** for each Departmental Ph.D. programme) has to be paid through payment link: <https://www.onlinesbi.sbi/sbicollect/icollecthome.htm?corpID=643164> under the head of account 'FET Ph.D. Application Fee 2025'. **The last date for on-line payment is 08.08.2025.**

3. a) After payment, candidates have to submit the duly filled in Application Form (available from <https://admissionju.jadavpuruniversity.in/fengadmission/home>) along with a photocopy of online payment receipt* (downloaded from SBI Collect payment system after online payment) along with other requisite testimonials [i.e. Self-attested photo copies of Mark-sheet & Certificates of Secondary, Higher Secondary, Graduation and Master Degree course, Copy of Aadhaar Card, Documents/ Certificates of CSIR-NET/UGC-NET/GATE/GPAT/SET/CEED/DST-INSPIRE/VISVESVARAYA/DBT/OTHER RECOGNISED FELLOWSHIPS (if any), SC/ST/OBC/PWD Certificate (if applicable)] and two (2) passport size photographs, **to the Office of the Dean & Secretary, Faculty of Engineering & Technology (2nd Floor of TEQIP Building, Opposite to Gandhi Bhawan) from 24.07.2025 to 11.08.2025 (between 11 AM to 4 PM) [except Saturday, Sunday and W.B. Govt. & JU holidays] by person or by post. The university shall not be responsible for any postal delay. The sealed envelope containing the Application (along with the documents) should be superscribed "Application to Ph.D. (Engineering/ Pharmacy) Programme 2025". Incomplete and/or incorrect application in any manner will be rejected. (* Without payment receipt no application will be accepted.)**

4. (a) The Candidates who have qualified for Assistant Professor/ Fellowship/Scholarship in the UGC-NET/CSIR-NET/GATE/GPAT/CEED/DST-INSPIRE/VISVESVARAYA or similar other National level tests, will be exempted from the Written Entrance Test (WRET) conducted by the respective Departments. Any other candidates will have to appear Written Entrance Test (WRET) (dates to be notified in due time). All notifications regarding selection will be published in the university web portal (<https://admissionju.jadavpuruniversity.in/fengadmission/home>). Candidates are requested to follow web portal notifications from time to time in this regard.

(b) The qualifying marks in the Written Entrance Test (WRET) shall be 50% for General category applicants. The Entrance Test shall consist of 50% of research methodology and 50% shall be subject specific. The syllabi of the departments will be available in the university web portal. The admission test (WRET) schedule & procedure will be notified in due time at a later date through the university web portal (<https://jadavpuruniversity.in>).

(c) A relaxation of 5% marks will be allowed in the entrance examination for the candidates belonging to SC/ST/OBC/differently-abled category, Economically Weaker Section (EWS), and other categories of candidates as per the decision of the Commission from time to time.

(d) For the selection of candidates based on the entrance test and interview, a weightage of 70% for the entrance test and 30 % for the performance in the interview/viva- voce shall be given.

(e) For selection of candidates who have qualified for Assistant Professor/ Fellowship/Scholarship in the UGC-NET/CSIR-NET/GATE/GPAT/SET/CEED/DST-INSPIRE/VISVESVARAYA/DBT or similar other National level tests, a weightage of 70% for the score in the concerned National level test and 30 % for the performance in the interview/viva-voce shall be given.

(f) All selected candidates must obtain qualifying marks (50%) in both Interview & written Admission Test (WRET), wherever applicable.

5. All eligible applicants will have to undergo the physical document verification process at the time of INTERVIEW in the concerned department of FET as per schedule. All selections will be provisional and may be cancelled at any point of time if the candidate is found ineligible against any of the required criteria.

6. Reservation:

- 1) Reservation of seats for admission will follow the relevant guidelines, as applicable.
- 2) As per circular no. BC-16014/1/82-SC dated 06/08/1984; BCD-I, D.O.12017/11/89-SCD (R.CELL) dated 08/01/1990; 1465–BCW/MR–67/10 dt.30/04/2010 and letter no. 1510-SCW dated 31/05/2007 of the Government of West Bengal, **Candidates with reservation certificates (SC/ST/OBC/PwD/EWS) issued by any state other than West Bengal are not entitled to reservation in such seats in Higher Educational Institutions in West Bengal.**
- 3) **SC / ST / OBC Reservation:** The concerned candidate shall have to furnish copies of a valid SC/ST/OBC certificate in his/her name issued by the competent authority as per the rule. The reservation certificate not fulfilling essential criteria or not issued by the competent authority will be rejected, and the candidate will not be considered under the reservation category.
 - 3.1) Reservation of Seats for Scheduled Cast (SC) and Scheduled Tribe (ST) is as per relevant rules and guidelines.
 - 3.2) The reservation for Other Backwards Class (OBC) category in the admission process is carried forward subject to orders passed by the Hon'ble Calcutta High Court dated 22/5/2024 (which has been challenged before the Hon'ble Supreme Court of India)
 - 3.3) **OBC certificates MUST be updated with the latest (issued on or after 19 June 2025) Non-Creamy Layer (NCL) certificate (as per standard government proforma) issued by the competent authority, and both the original OBC certificate and updated NCL certificate must be submitted together.**
- 4) **PwD Reservation:** Reservation in PwD seats will be available for the following types of disabilities as specified in relevant acts and rules, with the percentage of disability being not less than 40%. The types of disabilities are – Locomotor disability; Visual impairment; Hearing impairment; Speech & language disability; Intellectual disabilities; Mental illness; Disabilities caused due to chronic neurological conditions and blood disorders; Multiple disabilities including deaf blindness.
 - 4.1) PwD certificates are to be issued by any of the authorities as given in the Order No. 289- HF/O/PHP/IR- 05/2017 dated 29.08.2018 of the Government of West Bengal, Health & Family Welfare Department (PHP Branch)
- 5) **EWS Reservation:** The EWS reservation can be availed upon production of a gross annual family income certificate and asset certificate, as per the order no. 325-PAR(AR)/3P-1/2019 dated 09/07/2019 of the Government of West Bengal in the prescribed format, **issued on or after 01 April 2025** by the competent authorities.

Note: *Reservation Certificate issued by any person other than the competent authority (including BDO/ Jt. BDO or any other state or central government official or elected persons like Municipality Chairman, Panchayat Pradhan, MP, MLA or Minister of State or Central Government) will not be entertained.*

7. **Anti-Ragging:** **Ragging is not only a social evil but also a penal offence.** Any student/s indulging in ragging of any student/s including freshers during admission / interview and / or subsequently at the hostel or in the class or in the corridors or anywhere inside and outside of the campus, shall be dealt with punishment ranging from loss of academic year / loss of hostel boardership to expulsion from the university itself. Reporting to the Police Station may also be made in addition to the above punishment. The University follows all the directives of the “UGC REGULATION ON CURBING THE MENACE OF RAGGING IN HIGHER EDUCATIONAL INSTITUTIONS, 2009 under the direction of the Hon'ble Supreme Court of India. All the details, including the names and phone numbers of the members of the Anti-Ragging Committee and Anti-Ragging Squad are available in the link: https://admission.jdvu.ac.in/UGC_JU_Anti-ragging.pdf
8. For Ph.D. Rules & Regulations, please see the ‘Jadavpur University PhD Regulation 2024’ available at <https://jadavpuruniversity.in/download-centre/phd-regulation-2024-ec-approved-final-draft-july-2024/>
9. **Department wise vacancies for admission to Ph.D. Programme under FET are given below. The seat matrix will be announced at a later date.**
10. **NO INSTITUTIONAL SCHOLARSHIP IS OFFERED.**
11. The candidates are requested to follow university website regularly for new notifications/update/changes in this regard.

Sd/-
Dean
Faculty of Engineering & Technology

PhD Vacancies for New Admission/ Registration Under FET (2025)

Department of Architecture		
	Tentative Research Area	TOTAL NO. OF VACANCY- 04
	Landscape and Urban Studies	
	Urban Planning, Urban Microclimate, Energy Efficiency	
	Perception Studies/ Wellbeing Health in Urban Studies	
Department of Chemical Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY- 18
	Adsorption and waste water treatment, Microplastic degradation, Catalysis, Development of graphene based materials for multifaceted application, Surface treatment of polymers	
	NANOCATALYSIS REACTION ENGINEERING BIOFUEL, DROP-IN-FUEL PLATFORM CHEMICALS WASTE VALORISATION	
	Air & soil pollution monitoring, Biomonitoring, Phytoremediation, Three Phase Partitioning in biomolecules separation	
	ENVIRONMENT POLLUTION CONTROL, NANOTECHNOLOGY	
	Membrane separation Waste valorization Waste water treatment Nanomaterial synthesis and application	
	Solid waste management Water treatment Phytochemical research Nanotechnology	
	Development of catalysts for production of propylene Development of catalysts: Interference of trace gases	
	Catalysis and Reaction Engineering, Separation with Chemical Reaction, Adsorption/Electrochemical Techniques in Wastewater Treatment, Chemical Process Development, Biodegradable Waste derived Biofuels and other Value Added Chemicals, Carbon Materials for Energy Storage	
	Green Hydrogen generation via photocatalytic water splitting and Chemical hydride hydrolysis• Nano-hybrid Catalyst /Photo-catalyst/Electro-catalyst, Chemical and Photocatalytic Hydrogen Generation,• High Temperature Proton Exchange Membrane Fuel Cell (HTPEMFC) electrode, electrocatalyst and electrolytic membrane• Valuable product generation from CO2 using photo and electro-catalyst• Nano-science and Technology• Process Modeling and Simulations• Electro-active Polymers based sensor and drug delivery system development. Thin Films, Sub micro and nano structures	
	Fuels and Combustion	
Department of Civil Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY- 20
	River Hydrodynamics & Sediment Dynamics, Tidal Influence, Seismic Geotechnology, Geo-Hydrology, Water Resource Engineering, Disaster management	
	Dynamic Analysis of Tanks, Dynamic Analysis of Concrete Gravity Dam	
	Analysis of Composite Structures, Acoustics	
	Concrete Technology	

	Sustainable Construction Material	
	Geotechnical Earthquake Engineering	
	Ground Improvement/ Stabilization, Reinforced Geo-Structures, Highway Geotechniques	
	Biological Treatment of Waste water	
	Advanced Water and Wastewater Engineering	
	Geotechnical Engineering	
Department of Computer Science & Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY- 29
	AI and IoT for Social Good, Geoinformatics	
	AI and ML, Data Science, Computational Biology	
	Natural Language Processing, Speech Processing	
	Medical Image Processing and Computer Vision	
	Internet of Things, High performance computing	
	Locomotion of Robots, Computational Geometry, VLSI Physical Design, Digital Circuit Design	
	Image Processing, Data Science, Quantum Information Processing	
	Natural Language Processing, WSD, Text Data Mining, Summarization, openion mining, sentiment analysis, social media profile analysis, Financial data prediction, Hate speech detection, Fake news detaction	
	Bioinformatics, Image Processing, Responsible AI	
	Image/Video processing, Physiological sensing	
	Security	
	Medical Image Processing, Biometrics, Pattern Recognition, Soft Computing, Machine Learning	
	Machine Learning and Deep Learning, Natural Language Processing, Social Media Data Analytics	
	Indoor Localization, Machine learning, Deep learning, Text data analytics	
	Natural Language and Multi-modal Data Processing, Machine Learning and Deep Learning, Data Analytics, Chatbots and Large Language Models, Fake News	
	Machine Learning, Deep Learning, Image Processing, Pattern Recognition, Data Analytics	
	AI and Machine Learning ,Medical Image Processing, OCR, Deep Learning	
	Machine Learning, Bioinformatics	
	ML, NLP	
Department of Construction Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY- 10
	Highway Engineering, Pavement Mechanics, Transportation Geotechnics, Soil Structure Interaction, Pavement Materials	
	Health Monitoring of Structures, Earthquake Engineering	
	Geotechnical Engineering	
	Condition Monitoring of Structure	
	Structural Engineering, Concrete Technology	
Department of Electrical Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY- 25
	Condition Monitoring, Signal/ Image processing,	

	Machine learning		
	Power System High Voltage Engineering		
	Estimation, Filtering, Signal Processing, Control and Guidance		
	Signal Processing, Machine Learning, Image Processing, Robotics, Systems and Control		
	Power System, SmartGrid, Microgrid		
	High Voltage Engineering		
	Discrete-time Control, Periodic Control, Robust Control		
	Electrical Machines; Ferroresonance; Nonlinear dynamical systems; FEM in EM fields Machine; Nanocomposite materials		
	machine analysis		
	Applications of AI , Machine Learning Tools , Signal Processing for Neuro-signals in the field of Illumination Engineering		
	Power system		
	Control System and Wireless Communication		
	Renewable Energy Integration to Grid		
	Sustainable lighting systems, Spectrally tunable Lighting systems, Non-lighting applications of LED lamps, Lighting systems for sustainable building systems.		
Department of Electronics & Telecommunication Engineering			
	Tentative Research Area	TOTAL NO. OF VACANCY- 21	
	Signal Processing		
	Massive MIMO Beamforming and Reconfigurable Reflecting Surfaces for 5G/6G Wireless Communication, AI/ML for Communication and Network, IOT based health data monitoring system		
	Digital Signal Processing, Embedded Systems		
	Computer Vision and Pattern Recognition		
	Microwaves and Antennas		
	Planar microwave circuits and antennas		
	# Error Correcting Coding Techniques for Next Generation Communication # Digital Signal Processing # Cooperative Communications & networks		
	Optical Communication, Cryptography and Network Security, Architecture for Signal Processing		
	Analog/mixed-signal integrated circuits, IoT systems, VLSI		
	Analog/mixed-signal IC, VLSI, Microelectronics, Biomedical Engineering		
Department of Food Technology & Biochemical Engineering			
	Tentative Research Area	TOTAL NO. OF VACANCY- 07	

	Food fortification and Nutraceuticals	
	Green technologies of extraction; Nutraceuticals and Functional Foods; Molecular Nutrition; Nanotherapeutics for oxidative stress disorders; Fat/oil-based product development; Electronic nose applications in analysis of food products and agro-commodities	
	Nano-science and Nanotechnology, Bioremediation and Food Packaging	
	Biochemical Engineering, Waste Management, Food Technology	
Department of Information Technology		
	Tentative Research Area	TOTAL NO. OF VACANCY- 07
	Decentralized Ledger Technology, Challenged Networks	
	Natural Language Processing	
	Machine Learning	
	Information Security	
Department of Instrumentation & Electronics Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY : 22
	Intelligent Control and Optimization	
	Biomedical signal processing, Control and estimation	
	AI for healthcare	
	Solar Physics	
	Medical Image processing, VLSI, Emerging Computing	
	Machine Olfaction	
Department of Mechanical Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY : 49
	Advanced Manufacturing Technology	
	Bio Material and biomechanics	
	Heat Transfer, Combustion, Multiphase Flow, Thermal Management of Batteries	
	Machine Design (Tribology, composite materials)	
	Vibration, FGM	
	Energy; Heat transfer enhancement; Nanofluids; Non-Fourier analysis	
	Tribology, Material Charactization, Friction Stir Welding, Additive Manufacturing	
	Composite materials, FEM, FGM, Sandwich structures, honeycomb materials, optimization.	
	Tribology	
	Combustion, Heat transfer	
	Heat transfer, Turbulence, Computational Fluid Dynamics	
	Sustainable Energy	
	3D printing: simulation and application	
	Heat Transfer, Thermal Management, Multiphase Flow	
	Aerodynamics, hydraulic system and control, experimental fluid mechanics, underwater vehicle dynamics	
	Fluid Mechanics and Material Science	
	Vibration, Rotor Dynamics, Vibration Control, Control of Dynamical Systems	

	Tribology, Additive Manufacturing, Coating	
	Metal plasticity, FEM, ANN	
	Solid Mechanics, Vibration, Finite Element Analysis	
	AI and ML in Biomass based energy systems, Thermal Management in Electronic Cooling, Machine learning-driven Optimization of Nanofluid- based cooling system, Hybrid Machine Learning Framework for Real-time Thermal Performance prediction of nanofluid- based electronics cooling, Performance analysis of Energy storage devices, AI and ML in I. C. Engines and Alternative Fuels.	
	Thermofluid and Microfluids	
	Thermofluid Science, CFD, Energy, Material Processing	
Department of Metallurgical & Material Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY : 08
	Design of steel composition; Thermo-mechanical processes design for developing microstructure and crystallographic texture in metallic alloys; Structure-property correlation; Deformation and fracture behavior.	
	Materials science, Corrosion	
	Composite Materials, Nano-composites, Welding	
Department of Pharmaceutical Technology		
	Tentative Research Area	TOTAL NO. OF VACANCY : 15
	Pharmacology and Toxicology	
	Drug Delivery	
	Pharmaceutics	
	Drug Design and Discovery	
	Metabolic Disorder	
	Molecular Modeling, QSAR, QSTR, Docking	
	Cheminformatics	
	NDDS	
Department of Power Engineering		
	Tentative Research Area	TOTAL NO. OF VACANCY : 24
	1. Optimization Techniques for Microgrid energy management 2. Machine Learning Tools for Condition Monitoring of Induction Motors	
	Optimal Energy Management in Micro Grids	
	Resilience enhancement of an renewable integrated hybrid power system	
	1. RT modelling of Electric Vehicles. 2.Digital Twin based ADAS development for EVs 3.RT Simulation of Energy Optimized Communication for Control of Complex plants	
	1. Electric Vehicle, 2. Hybrid Energy storage, 3.Power System economics	
	Real time power management of E-vehicle and its	

	power management	
	1. Modeling of Deregulated Electricity market having both renewable & conventional energy resources connected in common grid 2. Constrained Power bidding optimization & spot pricing in deregulation. 3. Spot price forecasting in Deregulation using Finite Element Method analysis 4. Price spike analysis & regulation in deregulated energy market.	
	1. Energy generation from Biomass 2. Manufacturing methods in Power Engg. 3. Soft Computing techniques in enriching power production	
	Thermofluid Science, Heat Transfer Using Nanofluid, Droplet Evaporation of Nanofluid, Combustion/ Gasification/ Energy	

Department of Printing Engineering

	Tentative Research Area	TOTAL NO. OF VACANCY : 10
	Offset printing Newspaper printing Printing and finishing Post-press operations Printing processes Print surface preparation	
	Digital image processing, Computer vision, Digital printing, Print and packaging process optimization, Digital halftoning and Prepress technologies, Applied soft computing	
	Material Science, Paper technology, Ink Technology, Offset Printing, Sustainability in Printing and Packaging, Image Processing, Computer vision etc.	
	Flexo and gravure printing, Flexible packaging, Quality control in printing and packaging industry, color science, Image processing and pattern recognition, Sustainability & Green technology in Printing and packaging Industry	

Department of Production Engineering

	Tentative Research Area	TOTAL NO. OF VACANCY : 18
	Ergonomics	
	Multi-criteria Decision Making, Optimization, Fuzzy Modelling	
	Advanced Manufacturing Process(3D Printing/ EDM/ WEDM)	
	LBM Laser Welding, Reverse Engineering	
	Production and Operations Management, Manufacturing	

	Process, Design-Optimization, SCM	
	Micro-Machining, Additive Manufacturing	
	Laser Material Processing	
	Non-Traditional Machining, Micro-Machining	
	Additive Manufacturing, Micro-Manufacturing	