

TENTATIVE AREAS FOR PH.D. ADMISSIONS – December- 2024

Faculty of Technology and Engineering (Part-Time)

| | Area | Number of Seats |
|-------------------------------|---|------------------------|
| Chemical Engineering | <ul style="list-style-type: none"> • Catalysis, Biofuels, Green Processes, Gasification & Pyrolysis • Abatement of Industrial Pollution, Nanotechnology for environmental applications, Green Hydrogen • Process Integration, Process Simulations, Process Design, Phase Equilibrium • Polymer Technology, polymers in drug delivery • Green Chemical Engineering • Wastewater Treatments • Hydrogen Energy, Bio-fuels • Multiphase flow, Transport Phenomena | 41 |
| Civil Engineering | <ul style="list-style-type: none"> • Structural Engineering • Construction Materials, Technology and Management • Geo-Technical Engineering • Geomatics • Concrete Technology | 29 |
| Computer Engineering | <ul style="list-style-type: none"> • Machine Learning and Deep Learning, Optimization, Data and Web Mining, Natural Language Processing • Networks, D2D Communication, Wireless Networks • Network Security, Blockchain Technology, Cyber Security • Big Data Analytics, Community Detection and Prediction, Medical Image Processing • Human Computer Interaction (BCI and Eye Tracking), AR/VR, Audio and Speech Processing, Computer Vision • Internet of Things, Geospatial Data Analytics • AI in Healthcare, Image Processing, Satellite Image Analysis • Cloud computing and its applications, Quantum Computing | 78 |
| Electrical Engineering | <ul style="list-style-type: none"> • Power Electronics Devices, Converters, Drives, and Power Quality Improvement, Artificial Intelligence based Power Electronic Systems • Electrical Power System Analysis; Power System Dynamics, Modelling, Optimization | 12 |

| | | |
|--|---|----|
| | <p>and Intelligent techniques in Power Systems, Solar and Wind based Renewable integration with Grid, Smart Grid, High Voltage Engineering</p> <ul style="list-style-type: none"> • Design, Modelling, Performance analysis, and Optimization of Conventional and Advanced Electrical Machines • Electrical Vehicles, Electric Vehicle Charging Infrastructure: On-board and off-board Electric Vehicle Chargers, Intelligent Battery Management System, etc. • Applications of IoT, Data Analytics, Load and Generation Forecasting in Electrical Engineering, etc. • Generation of Electricity by Waste Water Treatment, Applications of Plasma, Recent topics and innovation in Electrical Engineering | |
| | | |
| Electronics & Instrumentation Engineering | <ul style="list-style-type: none"> • Control Engineering, Soft computing Applications, Industrial Control System Design • Industrial Automation & Robotics, Biomedical Instrumentation, Industrial Applications of Machine Learning, Sensors & Measurement Techniques • Image and Signal Processing • Embedded system for automation, Power electronics | 12 |
| Mechanical Engineering | <ul style="list-style-type: none"> • Thermal and Fluid Engineering • Renewable Energy • Thermo-chemical Conversion of biomass/coal -pyrolysis, gasification, combustion • I. C. Engine and Alternate fuels • Multiphase flow • Microfluidics • Turbomachine • Computational Fluid Dynamics and Heat Transfer • Heat Exchangers • Rarefied gas flow • Modeling of Thermal Systems • Smart Fluids and Structures • Manufacturing Engineering • Additive Manufacturing, Sustainable manufacturing • Metal Joining • Metal Casting • Microwave based melting • Friction stir processing | 39 |

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|--|--|------------|
| | <ul style="list-style-type: none"> • Sustainable Machining • Sheet Metal Forming • Machine Learning and Manufacturing • Advanced Materials • Processing and Characterization of Composite Materials • Production and Industrial Engineering • Quality Engineering • Design Engineering • Stress Analysis • Finite Element Analysis • Fracture Mechanics and Bio Mechanics • Robotics • Vibration • Condition monitoring of mechanical equipment • Automation in Manufacturing | |
| | | |
| Electronics & Communication Engineering | <ul style="list-style-type: none"> • VLSI Design, Test and Verification • Embedded Systems • Wireless Communication and Networking • Signal and Image Processing • Remote Sensing • Machine Learning and Computer Vision • Cyber Physical System | 36 |
| | | |
| Mathematics | <ul style="list-style-type: none"> • Mathematics | 08 |
| Humanities and Social Science | <ul style="list-style-type: none"> • Economics | 03 |
| | Total Seats | 258 |

Faculty of Pharmacy (Part-Time)

| Areas of Research | Number of Seats |
|--------------------------|-----------------|
| Pharmaceutical Analysis | 06 |
| Pharmaceutical Chemistry | 12 |
| Pharmaceutics | 07 |
| Pharmacognosy | 08 |
| Pharmacology | 07 |
| Total Seats | 40 |

Faculty of Law (Part-Time)

| Areas of Research | Number of Seats |
|---|------------------------|
| Environmental Law | 02 |
| Economics | 02 |
| Constitution, Administrative Law & Human Rights | 03 |
| Political Science | 03 |
| Corporate Law | 07 |
| Total Seats | 17 |

Faculty of Science (Part-Time)

| Areas of Research | Number of Seats |
|--------------------------|------------------------|
| Life Science | 01 |
| Physics | 06 |
| Chemistry | 10 |
| Total Seats | 17 |

Faculty of Architecture & Planning (Part-Time)

| Areas of Research | Number of Seats |
|---|------------------------|
| Architecture (Urban Planning, Urban Design, Nature Based Solutions, Environmental Management) | 05 |
| Total Seats | 05 |

Faculty of Management (Part-Time)

| Areas of Research | Number of Seats |
|--------------------------|------------------------|
| Finance & Accounting | 10 |
| Marketing | 01 |
| Total Seats | 11 |