

Areas of Research for Doctor of Philosophy (July 2024 Admissions)

Academic Division (Department/School/ Centre)	Specialization	Areas of Research	Link to Dept./ Centre/ School
Computer Science and Engineering	Computer Science and Engineering	Artificial Intelligence, Interpretability of AI and ML Models, Online Learning, Evolving and Adaptive Intelligent Systems, Data Mining, NLP, Speech processing, Computer Vision and Deep Learning, Nature-inspired Algorithms, Intelligent and Networked Robotics, Augmented/Virtual reality, Human-Computer Interaction, Distributed Systems, Edge and Cloud Computing, Wireless Networks, Software defined Networking, IoT, Smart Grid, Intelligent Transportation Systems, Network Security, Controller Synthesis and Games, Formal Verification, Logic in Computer Science, High-level Synthesis, Electronic Design Automation (EDA), ML for EDA, ML for Security, Hardware Acceleration, Embedded and Cyber-physical Systems, System-on-chip validation, Multicore Architecture, Memory Systems, Near-memory Computing, Disaggregated Compute Systems, Approximate Computing, Autonomous Vehicles, Hardware Security, Data Structures, Algorithms, Distributed Algorithms, Randomization and Approximation Algorithms, Optimization, Computational Geometry.	CSE Department
Electronics and Electrical Engineering	Communication Engineering	Wireless Communications; Information Theory and Coding; Communication Networks; Computer Networks; Computational Photography; Data Compression; and Cryptography; Quantum error correction; Quantum computation and communication; Waveform design for wireless communications; Vehicular communications; 5G/6G Wireless communication; AI/ML application in communications; Adversarial machine learning; Blockchains and Cryptocurrency Technologies.	EEE Department
	Power Engineering	Power Systems; Power Electronics; Power Quality; Power electronics application in power system; Micro grid and renewable energy resources; Power distribution system planning; Custom power devices; Electrical Machines; Control of Electrical Drives; Smart Grids and Electric Vehicles; High Voltage Engineering; High Voltage Engineering and Applied Electromagnetics; Condition Monitoring of	

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		Power Apparatuses; High voltage and Pulse power; High power density motor design; Inductive charging for EVs; Vector Control of Motors; Power system Monitoring and Control; Power System Cyber-Security; Decentralized Control for the Smart Grid, Fuel Cell-Battery hybrid energy systems.	
	Microelectronics; Photonics and RF Engineering	Microelectronics; Solid-State Devices; Semiconductor Devices; Optical devices; Fiber Optic Communication; Optoelectronics; Photonics Integrated Circuits; Silicon photonics; Optical Communication; Optical Networks; Optical Sensors; Nanophotonics; Biophotonics; Photonic Computing; Lidar; AI/ML-Assisted Photonic Design; Distributed Acoustic Sensors; Microwave and Photonics; Quantum Photonics; Optical Instrumentation; Programmable Photonics; Plasmonics and metamaterials and smart electrotuneable plasmonic metasystems; Structural Health Monitoring Using fiber Optics; Optical Signal Processing; Digital Holography; Phase Imaging; Laser Speckle Imaging, Fringe Projection Profilometry, Interferometry; Photonics and Metamaterial device design using AI; Metamaterials for MRI; Antenna; Microwave Engineering; Electromagnetics; Computational Electromagnetics. Reconfigurable Metasurfaces; TeraHertz Photonic Topological Insulators; Metamaterials and Metasurfaces for Advanced photovoltaics and Light emitting diodes; Antenna; Microwave Engineering; Electromagnetics; Computational Electromagnetics; Vacuum Electronics; Millimeter-wave Communication.	
	Signal Processing and Machine Learning	Data Sciences; Biomedical Signal and Medical Image Processing; Speech and Handwriting Processing; Image/Video Processing and Computer Vision; Pattern Recognition; Multimedia Analytics; Biometrics; Counter-spoofing; Security and Privacy; Biometrics and Biometric counter-spoofing; Privacy preserving analysis for secure computation; Secure key distribution and management in wireless sensor networks; Video Analytics; Vision and Language; Natural Language Processing; Deep Learning.	

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	Systems; Control and Automation	Systems Theory; Control Theory and Applications; Control of Nonlinear Uncertain Systems; Artificial Intelligence based Control; Identification and Control of Nonlinear Systems; Relay Based Identification and Autotuning; Adaptive Control; Optimal Control; Robotics and Automation; Cryptography; Robust Control; Cooperative Control of Multi-agent Systems; Decentralized Control for Smart Power Grid Applications; Model Predictive Control; Reinforcement Learning; Vibration control of flexible structures; Modelling and control of mechatronic and robotic systems; Multi-agent systems and Cooperative control; Group-coordinated control of UAVs; UGVs and AUVs; Connected Vehicle Platooning; Passivity-based control and Dissipativity; Negative-imaginary systems theory; Robust control of missiles; spacecraft and rockets; Smart and Microgrid control using a multi-agent framework; Controller Design for Energy Management System in Electric Vehicles.	
	VLSI and Nanoelectronics	Solid-State Devices; Analog and RF Integrated Circuits; Digital Systems; DSP Architectures; CAD for VLSI; High Performance Computing; MEMS; Organic Electronics; Flexible Electronics; Instrumentation; Quantum Computing; Hardware Security; Sensors; Non-volatile memory technologies; Spintronics; Power Semiconductor Devices; Photodetectors; VLSI System Design; Embedded System Design; Computer Architecture; Neuromorphic Computing; In-Memory Computing; Hardware Realization of Machine Learning Algorithms; Magnetic random-access memory (MRAM); Magnetic Tunnel Junctions (MTJ); Advanced data storage technologies; Neuromorphic devices; ; Wearable Sensors; Electronic Nose; Papertronic Sensing Systems; and Sensor Interface Electronics; Quantum Photonics; Wide Bandgap semiconductors; Reliability; Photovoltaics; Energy Devices for Green Hydrogen; SAW Devices; Quantum Sensing Devices; Semiconductor Packaging Technologies; Low-Dimensional Semiconductor Devices; Single Electron Transistors; Single Photon Emitters and Detectors; Nano-Bioelectronics; Light Emitting Diodes and Transistors; Transient Electronics.	

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Mechanical Engineering	Machine Design	Machine Design; Vibrations; Solid Mechanics; Data-driven material modelling; Modelling of heterogenous materials; Rehabilitation Robotics; Robotic Neurorehabilitation; Quantum Computing in Computational Mechanic; Multi-Disciplinary Design and Optimization; Operations Research; Multiscale Modelling of Composites; Micromechanics and Homogenization; Application of Machine Learning in Material Modelling; Rotor Dynamics; Condition Monitoring of Machinery; Polymer Composites; Natural Fiber Reinforced Composites; Predictive Maintenance; Generative Design; Digital Twin in Machine Design; Electromagnetics; Functionally Graded Material Fabrication; FEM in Acoustics, Electromagnetics and Structures; Structural Optimization.	ME Department
	Manufacturing and Materials	Manufacturing Engineering; Metal Additive Manufacturing Technologies; CAD / CAM; Mechanical metamaterials; Impact energy absorbing materials; Metallurgy of 3D-printing; Natural Fiber Reinforced Composites; Polymer Composites; Repairing of underwater structures using composites; AI and ML in Machining Processes; Modelling of Manufacturing Processes; Digital twin in manufacturing; Composite Machining; Additive Manufacturing; Electromagnetic Forming; Electromagnetic Crimping; Dynamics in machining processes; Welding; Micromachining and micromanufacturing; Sustainable material design; Laser based manufacturing processes; Automation in manufacturing.	
	Fluids and Thermal	Fluid Mechanics; Thermal Engineering; Heat Transfer; Experimental investigation of flow-induced vibrations and its application in renewable energy; Development of in-house sensors for flow measurements; Numerical investigation of flow-induced vibrations; Flow and plants; Acoustofluidics; Magnetohydrodynamics (MHD), Turbulence; Direct Numerical Simulations (DNS) and Large Eddy Simulations (LES); Fusion Energy Generation; Tokamak Plasma Dynamics; Fluid Structure Interaction with rigid body collision; DNS and LES of turbulent shear flows using immersed boundary method; Turbulent Rayleigh-Benard convection over rotating rough surfaces; Active and passive flapping of thin plates with the aim of studying	

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		self-propelled regime; Computational Fluid Dynamics (CFD); Experimental Fluid Dynamics; Multiphase Flows; Biomicrofluidics; Finite Element Analysis in Multiphysics; Structure; Acoustics; Turbulence; Fluid-Structure Interaction; Flow-Induced Vibration.	
Civil Engineering	Environment Engineering	(For Civil Engineering Department, Sub-Area is not required to be filled in the application form)	Civil Engineering Department
	Geotechnical Engineering		
	Infrastructure Engineering & Management		
	Structural Engineering		
	Transportation Engineering		
	Water Resources and Hydraulic Engineering		
	Earth System Science and Engineering.		
Biosciences and Bioengineering	Biosciences and Bioengineering	All Areas of Biosciences and Bioengineering.	BSBE Department
Chemical Engineering	Chemical Engineering	Materials Science and Engineering; Colloid and Interface Science; Catalysis & Electrocatalysis; Process Intensification; Bioengineering; Energy Science and Technology; Biomass Pyrolysis; Microalgae Biorefinery; Artificial Intelligence/Machine Learning/Data Science; Mesoscale (Micro/Nano) Science and Engineering; Environmental Science and Engineering; Petroleum Science and Engineering; Petrochemicals; Process Control; Multiphase flow; Advanced	Chemical Engineering Department

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		Computing (Molecular dynamics, Multiscale simulations, CFD, Optimization); Computational Bioscience; Quantum Chemistry; Food Science and Technology; Polymer Science and Technology.	
Design	Design	Visual Communication (Including Art & Visual Culture, Semiotics, Colour, Typography, Grids, Signage Design, Graphic Design, Illustration, Animation, Multimedia, Film & Video, Visual Narratives); New Media; Design Management, Design Strategy, Product-Service-Systems (PSS); Service Design; Design For Sustainability; Design for Social Innovation; System Design; Product Design and Development; Product Aesthetics; Form Design; Human Centered Design of Emerging-Technology-Based Products; Design Cognition; Understanding/Supporting Design Processes in Various Disciplines; Design and Culture; Makerspaces; Participatory Design; Co-creation; Frugal Design and Engineering; Frugal Innovation; Inclusive Design; Design For Health and Well-Being; Human Computer Interaction (HCI); Interaction and Usability Engineering; Virtual Reality (VR); Voice And Conversational User Interfaces; Assistive Interfaces; User Interaction On Flexible Displays; Deformation Based Input Methods; Information Communication Technology For Development (ICTD); Input Methods for Digital Interfaces; Ergonomics (Including Occupational Health And Safety); Design Creativity and Innovation Studies; Design Education and Pedagogy; Design for Smart Cities; Design for Children; Toy Design; Electronic Product Design; Sound Design and Sonic Studies; Speculative Design; Furniture Design; Packaging Design; Automotive Design; Advanced Product Design with Additive Manufacturing.	Design Department
Physics	Physics	Condensed Matter Physics – materials physics, materials for energy and environmental applications, ferroelectric and oxide materials, graphene and analogue atomic thin materials, organic semiconductors, semiconducting materials, metal halide perovskite materials, photo-physics, thin film semiconductor devices, solar cells, LEDs, flexible devices, topological and low-dimensional quantum materials, electronic transport properties, imaging, smart magnetic materials, multiferroics, luttinger liquids, soft condensed matter, spintronics, statistical	Physics Department

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		<p>physics, random walk, percolation, porous media, climate physics, network, self-organization, active matters and collective motion, nonequilibrium statistical mechanics, hydrodynamics, quantum turbulence and nonlinear instabilities in BEC, strongly correlated systems, superconductivity, topological insulators, skyrmions, quantum turbulence, quantum phase transitions, ultracold atoms in optical lattices, nanomaterials and nanotechnology, polymer physics, AdS/CMT, magnetohydrodynamics, Luttinger and non-Fermi liquids, Bosonization, Machine learning in Physics.</p> <p>Gravity, Astrophysics, and Cosmology – classical & quantum aspects of gravity, cosmology, and astrophysics – black hole physics, theoretical cosmology, Early universe magneto-hydrodynamics (MHD), astrophysical flows around compact objects, X-ray astronomy of black hole X-ray Binaries, ultra high energy cosmic rays, black hole thermodynamics, quantum field theory on curved spacetime.</p> <p>High Energy Physics – Theory and Phenomenology: dark matter phenomenology, neutrino physics, heavy flavor physics, collider phenomenology, QCD, precision calculations in the Standard Model and beyond, aspects of CP violation, matter-antimatter asymmetry, astro-particle physics/cosmological connections, inflation, effective field theory in particle and nuclear physics, physics of exotic hadrons.</p> <p>Experimental Particle Physics: B-physics at Belle and Belle II and neutrino physics at NoVA and DUNE.</p> <p>Laser and Photonics – fiber Optics, localized surface plasmon resonance, optical fiber sensors for structural health monitoring and environmental engineering, laser-Matter interaction, nonlinear optics, quantum optics, holographic optical trapping, super-resolution imaging, terahertz plasmonics and metamaterials, plasmonics materials, laser-induced breakdown spectroscopy, and plasma spectroscopy, Integrated photonic devices, Quantum optoelectronics, Non-volatile photonic memory, Near-field optical microscopy, Integrated Quantum Photonics, Laser Micromachining.</p> <p>Quantum Optics and Quantum Technology – cavity quantum electrodynamics, circuit QED and quantum optomechanics, cold atoms for quantum computation and simulation.</p>	

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Chemistry	Chemistry	All Areas of Chemistry.	Chemistry Department
Mathematics	Mathematics	Harmonic Analysis, Functional Analysis and Operator Theory, Geometry and Topology, Numerical Analysis, Fluid Dynamics, Mathematical Biology.	Mathematics Department
	Probability, Statistics and Finance	Stochastic Models, Queueing Systems, Statistics, Biostatistics, Machine Learning, Mathematical Finance, Computational Finance, Portfolio Theory, Financial Risk Management, Financial Analytics, Sustainable Finance, Algorithmic and High Frequency Trading, FinTech.	
	Computer Science	Algorithms, Data Structures, Approximation Algorithms, Graph Algorithms, Distributed Algorithms, Security and privacy, Social networks.	
Humanities and Social Sciences	Archaeology	Ancient and Medieval Archaeology; Sciences in Archaeology	HSS Department
	Development Studies	Agrarian studies	
	Economics	All areas	
	English	Literary Aesthetics, Literature and Philosophy, and Digital Humanities; Literature and History	
	History	History of Medieval and Modern India	
	Linguistics	<ol style="list-style-type: none"> 1. Phonology & phonological processing, prosodic aspects of atypical learning, tone and intonation in languages especially Tibeto-Burman and Indo-Aryan languages. 2. Language processing, sociolinguistics of north eastern languages, bilingualism. cognitive linguistic study of languages (with special focus on north-eastern languages). 3. Acoustic phonetics, Phonetics of tone languages, Phonetics of Tibeto-Burman languages 	
	Philosophy	Causation, Confirmation Theory, Factivity, Virtue Epistemology	
	Political Science	Election studies; Indian politics, political theory, and political thought	

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	Psychology	All Areas	
	Sociology	All Areas	
Agro and Rural Technology	Agro and Rural Technology	Agricultural Biotechnology, Climate smart agriculture through AI ML and its applications; Food Biotechnology, Isothermal drying of agricultural products, Microbial tools for soil quality improvement; Waste water treatment, Solid Waste management, Useful product development from agro-refuse.	School of Agro and Rural Technology
Energy Science and Engineering	Energy Science and Engineering	<p>All the areas related to renewable energy, clean coal technology, biofuels (Biodiesel, Bioethanol etc.), biolubricants, gasification, biomass pyrolysis, microalgae, internal combustion engine, energy efficiency and advanced energy storage systems, hydrogen production and storage, fuel cell and electrocatalysts, CO2 to methanol, bio oil via CTL, solar thermal, energy material synthesis, batteries and supercapacitors.</p> <p>Power electronics application in power system; Power system monitoring and Control; Control of Power Electronics Interfaces for Distributed Energy Resources and Microgrids. EV charging infrastructure, electronic design, energy computation and simulation, device fabrication, integrated energy systems, and multigeneration energy systems, energy modelling, AI and energy optimization. Power Systems.</p>	School of Energy Science and Engineering
Mehta Family School of Data Science and Artificial Intelligence	Data Science and Artificial Intelligence	<ol style="list-style-type: none"> 1. Artificial Intelligence, Machine Learning, and Deep Learning Algorithms and their applications to Computer Vision: Object detection, Classification, Identification, Recognition, Image enhancement, Image matching; Equitable Precision Medicine: Transfer learning, Meta-learning, Few-shot learning; and Condition-based Monitoring: Fault diagnosis and Remaining useful life prediction. 2. Computer Vision using Deep Learning and Machine Learning, Adverse Weather Image/Video Restoration, Object Detection and Tracking, Scene Perception/Understanding 3. Optimization and Control of Stochastic Systems, Resource Allocation in Next-generation Wireless Communication Networks (5G/6G), Reinforcement Learning, Application of Machine Learning in 	Mehta Family School of Data Science and Artificial Intelligence

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		<p>Wireless Communication, Markov Decision Process, Multi-armed Bandit, Internet of Things (IoT), Federated Learning, Quantum Machine Learning.</p> <ol style="list-style-type: none"> 4. Image processing: Biomedical image processing, Computer vision: Classification, segmentation, and tracking of the human eye, face, and hand, Computer graphics: Animation of human eye and face 5. Machine Learning in Robotic Neurorehabilitation 6. Speech, Audio, and Neural/Brain Signals: Modeling, Processing, Recognition, Generation, Multi-modal Approaches; Applications to scientific understanding, technology development, and healthcare. 7. AI for Cognitive Science: Psychology-driven experiments, Modeling and Data-driven hypothesis testing 8. AI/ML plus Physics 9. Network security and Security in social networks. 10. Reliability, Statistical Inferences, Transfer Learning, Applications of AI and ML 11. Statistical Signal Processing and Machine Learning, Non-linear regression, Time series analysis; Bayesian Inference in Signal Processing 12. Quantitative Finance, Financial Analytics. 13. Video Deep-fake Detection, Activity Recognition 14. Network Medicine, Systems Biology, Computational Biology 15. TinyML (camera, radar, smell and tactile sensor ML), NeuroAI, Neuromorphic Engineering, Computational Neuroscience, Few shot learning, Continual lifelong learning. 	
<p>Jyoti and Bhupat Mehta School of Health Sciences and Technology</p>	<p>Health Sciences and Technology</p>	<ul style="list-style-type: none"> • Biomedical Devices and Sensors; Disease Diagnostics; Biomedical Imaging and Analysis; Development of MRI Contrast Agents; Microfluidics; Nanoelectronics; Nanobiotechnology. • Tissue Engineering; In-vitro Disease Models for Drug Screening; Cancer Biology and Stem Cells; Regenerative Medicine and Stem Cells; Expanded Genetic Code. 	<p>Jyoti and Bhupat Mehta School of Health Sciences and Technology</p>

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		<ul style="list-style-type: none"> • Molecular Biophysics; Chemical Biology; Tox Screening of Phytochemicals/Drugs; Site-specific Protein Modification, Mathematical modeling and simulations of Biomolecules. • Health Data Science and Analytics; Preserving Privacy in Health Data Sharing; Ergonomics and Design for Healthcare; Quantum Technology for Healthcare Applications. • Biomaterials; Artificial Limbs and Prosthetics; Biomechanics; Transport Processes in Physiological Systems; Medical Waste Disposal and Degradation. • Bioorganic, Bioinorganic and Medicinal Chemistry; Drug Delivery; Environmental Health and Toxicology. • Molecular Neuroscience and Cancer Neuroscience, Pharmacology and Toxicology, Large-Scale Genomics and Transcriptomic Data Analysis, Cheminformatics, Protein Engineering. 	
School of Business	Business	Marketing, Organizational Behaviour and Human Resource Management, Finance, Economics, Operations Research, Operations Management, and Project Management.	School of Business
Environment	Environment	Water and industrial wastewater treatment technologies (membrane separation, AOPs, physicochemical methods, microalgal and microbial processes, etc), Groundwater treatment (arsenic, fluoride removal, etc.), CO2 capture, separation, and production formation (electrochemical, photochemical, adsorption, membrane processes, and modeling & simulation studies), Environmental microplastics and its remediation, Nanomaterials and biomaterials for environmental applications (sensor development, catalysis, adsorbent development, healthcare, antimicrobial activity, etc), Solid waste management and valorization, Atmospheric chemistry of oxygenated volatile organic compounds, Radical initiated reaction with CFC alternatives, QM/ MM studies on enzyme catalysis, Molecular dynamics simulation of biological molecules, Prebiotic pathways in extraterrestrial atmosphere, Environmental genomics of fungi, Bacterial isolation from nature and its uses, Semisynthetic organisms with expanded genetic codes for environmental	Centre for the Environment

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		applications, Membrane development for fuel cell, Intelligent integration of AI and IoT for air quality monitoring, Sustainable functional food, Other emerging areas of environment with interdisciplinary application of science, technology, arts and humanities.	
Nanotechnology	Nanotechnology	<ol style="list-style-type: none"> 1. Quantum Materials and Technology 2. Environmental and Energy Nanotechnology 3. Start-Up Nanotechnology 4. Non-volatile memory 5. Spintronics 6. MRAM (SOT, STT) 7. Race-track memory 8. HDD (Hard disk drives) 9. SSD (Solid state drives) 10. Quantum computing 11. Neuromorphic memory 	Centre for Nanotechnology
Linguistic Science and Technology	Linguistic Science and Technology	Natural Language Processing, Computational Phonology, Speech Analysis, Spoken Language Resources, Neuroimaging of Language disorders, Quantitative Phonetics, Natural User Interfaces, Vision and language, Vision and Speech, Document Image Processing, Virtual / Augmented / Mixed Reality	Centre for Linguistic Science & Technology
Disaster Management and Research	Disaster Management and Research	Structural health monitoring, Service Life Assessment of Structures, Low-cost housing; Sustainable construction materials; Vulnerability, adaptation and DDR in urban cluster; Transport (accessibility and disaster resilience); Earthquake ground motion characterization; Seismic resilience of structures; Seismic and blast-induced disasters; Design for disaster risk reduction; Landslide prediction and mitigation, mudflow/debris-flow; Disaster modeling using AI and Machine Learning; Deformation of metallic structures under crash loading conditions; Gender Perspectives in DRR; Non-equilibrium transport of pollutants in soil; Structural Health Monitoring & Reliability Analysis; Climate change Vulnerability & Adaptation assessment in flood and drought affected areas; Climate-smart agriculture; Community based Disaster Risk Reduction.	Centre for Disaster Management and Research

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Sustainable Polymers	Sustainable Polymers	All areas of Polymer Science and Engineering (including Organic electronics, Polymer liquid crystal, Polymer nanocomposites, Implant materials), Solid Waste Management, Agriculture, Biotechnology with Emphasis on Biopolymers, Monomers, Biocatalysis, Toxicology, Migration Studies, Polymer Ecology, Life Cycle Assessment, Polymer Product Design and Development, Orgnocatalyst, Organometallic catalysis, Green Chemistry.	Centre for Sustainable Polymers
Indian Knowledge Systems	Indian Knowledge Systems	<ul style="list-style-type: none"> • History of Science, Technology, and Engineering in India; • Water conservation systems; • Home Construction Materials; • Vastu and Sidhanta/Samhita-Jyotisha • Temple Architecture; • Study of Instruments from Indian texts; • Science and Technology of Ksheerapaka extracts; • Ontological design; • Herbal/Ayurvedic Medicinal Products; • Integrative Medicine; • Psychology and Consciousness studies; • Meditation and Health; • Indigenous cultivation systems and Indigenous trade 	Centre for Indian Knowledge Systems
Intelligent Cyber Physical Systems	Intelligent Cyber Physical Systems	Internet-of-Things (IoT), Sensors, Embedded Systems; Robotics, Control and Sensing: Modelling, Analysis and Design of Robotic Systems, Intelligent Sensing and Control for Autonomous Vehicles, Control of Swarm Systems, Sensor and Actuator Design; Artificial Intelligence: Machine Learning, Deep Learning, Computer Vision, Natural Language Processing, Speech and Audio Signal Processing, Biomedical Signal & Image Processing, Data Science and Analytics; Underwater Systems: Underwater Systems Design and Development, Underwater Exploration, Underwater Structural Analysis, Sonar and Underwater Acoustics, Compressed Air Energy Storage, Power Electronics for Underwater Systems, Underwater Concrete Printing; Biomechanics and Biomedical Devices; Smart and	Centre for Intelligent Cyber Physical Systems

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		Intelligent Manufacturing: Robotics Manufacturing, AI and ML in Manufacturing Processes, Digital Twin of Manufacturing Systems and processes.	
Centre for Sustainable Water Research	Sustainable Water Research	Hydrology and Water Resources Engineering (Surface Water; Groundwater; Atmospheric Water); Hydraulics; Socio-economic aspects of water; Water Economics; Water governance and policy; Transboundary water management; Sustainable Development of Water Resources; Remote Sensing and GIS application in Water Resources; Contaminant Transport; Water Filtration; Chemistry of nanomaterials for sustainable water; Pipe Networks; and allied areas related to sustainable water research.	Centre for Sustainable Water Research
Centre for Drone Technology	Drone Technology	Autonomous Vehicles: Sensors, Embedded Systems, Control and Sensing, Design and development of Drones; Artificial Intelligence: Machine Learning, Computer Vision, Signal Processing, Image Processing; Underground Exploration, Remote Sensing and Geoinformatics (Geomatics), Geodesy, Atmospheric Science, Societal problems and mitigation.	Centre for Drone Technology