

**Rolling Advertisement No. L-10/25-26
Areas of Specialization**

Sr. No.	Academic Unit	Areas of Specialization
1	Aerospace Engineering	<p>Application of AI/ML and numerical techniques to aerospace and related multi-physics systems.</p> <p>Computational or mathematical methods with a focus on digital twin development for aerospace systems.</p> <p>Aerospace systems design and space engineering.</p> <p>Experimental aerodynamics.</p> <p>Structural health monitoring, experimental mechanics and/or modelling of high-temperature materials, NDE wave propagation, and damage detection in aircraft structural materials.</p> <p>The following themes in the context of aerospace propulsion systems: sustainability, electric or more-electric systems, heat transfer, engine health monitoring, experimental high-speed combustion, space propulsion, and liquid/cryo/semi-cryo engines.</p> <p>Navigation, guidance and control, flight mechanics, and estimation techniques for aerospace vehicles and systems.</p>
2	Biosciences & Bioengineering	<p>(1) Medical Instrumentation (2) Medical Signal & Medical Image Processing (3) Physiological Systems Modelling (4) Data Science for Biomedical Engineering (5) Development of Microscopy Tools and Systems (6) Vertebrate Animal Biology (Development, Neurobiology, Regeneration, Aging, Disease models etc.). (7) Genomics/Lipidomics/Metabolomics (8) Synthetic Biology (9) Plant Biology (10) Single Molecule Techniques (11) Bioinformatics (12) Cell & Gene Therapy</p>
3	Chemical Engineering	<p>Candidates with at least one degree in chemical engineering (undergraduate, postgraduate, or doctoral) will be considered under all six broad research areas of chemical engineering (see below).</p> <p>Candidates without a formal degree in Chemical Engineering will be considered only under exceptional circumstances, and only if their primary research aligns with one of the specific sub-areas (a, b, etc.) within the six broad research domains of the Chemical Engineering Department. In addition, such candidates must demonstrate the</p>

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		<p>capability to teach at least one of the following undergraduate courses: Chemical Engineering Thermodynamics, Chemical Reaction Engineering, Introduction to Transport Phenomena, and Introduction to Numerical Analysis as listed on the department website (https://www.che.iitb.ac.in/old/sites/default/files/basicpagefiles/UG%20Curriculum_2023%20merged-1.pdf)</p> <ol style="list-style-type: none"> 1. Biotechnology and Biosystems Engineering <ol style="list-style-type: none"> a. Synthetic biology b. Cell and gene therapy; drug delivery 2. Catalysis and Reaction Engineering <ol style="list-style-type: none"> a. Experimental catalysis b. Membrane synthesis and technologies c. Battery material development and scale-up 3. Soft Matter <ol style="list-style-type: none"> a. Sustainable materials and the circular economy of materials b. Aerosol reaction engineering and aerosol nanomaterials 4. Process Systems and Controls Engineering <ol style="list-style-type: none"> a. Process Systems Engineering for Sustainability b. AI/ML in process design and operations 5. Complex Flows <ol style="list-style-type: none"> a. Experimental fluid and granular mechanics b. Mathematical methods and computational algorithms for complex fluid flows 6. Thermodynamics and Molecular Simulations <ol style="list-style-type: none"> a. Quantum simulation of reactions on quantum computers b. Charge transfer theory c. Molecular Modelling for Sustainability
4	Chemistry	<ol style="list-style-type: none"> (a) Metalloenzymes. (b) Main group inorganic chemistry. (c) Synthesis of new organometallic compounds and their applications (d) Total synthesis (or isolation) of natural products with a focus on drug discovery. (e) Asymmetric synthesis and catalysis (f) Data-driven (AI/ML) synthetic organic chemistry with a focus on catalysis/drug discovery. (g) Synthetic polymer chemistry with a focus on sustainability. (h) Biosynthesis/Sustainability / Biocatalysis / Synthetic Biology bearing translational potentials. (i) Advanced spectroscopy and microscopy techniques with focus on any of the following: Multidimensional spectroscopy/ microscopy; Scanning tunnelling spectroscopy and Single-molecule electronics; Plasmonics, Surface-plasmon resonance imaging,

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		<p>Near-field scanning optical microscopy and Tip-enhanced (IR/Raman) microscopy/ spectroscopy; interferometric scattering microscopy, Chiro-optical and CPL imaging, Super-resolution fluorescence imaging and nanoscopy.</p> <p>(j) Multi-modal, time resolved spectroscopy/microscopy (not limited to) to probe reaction intermediates/products/ mechanisms at solid-liquid and solid-gas interfaces (heterogeneous catalysis and electrochemical reactions).</p> <p>(k) Cryogenic electron microscopy in biological/materials science.</p> <p>*Exceptional candidates in all fields will be considered.</p>
5	Civil Engineering	<p>1] CE1 (Transportation System Engineering): (1-i) Pavement materials, analysis, design and maintenance (1-ii) Transit planning and operations (1-iii) Air Transportation Planning and Operations (1-iv) Transportation Economics and Finance* (1-v) Advanced technologies in Transportation such as shared mobility, Connected and Autonomous vehicles#</p> <p>*For the “Transportation Economics and Finance” area, candidates with 4-year UG degree in Economics, Mechanical, Electrical/ Electronics, Operations Research, and PG in the fields of Transportation Economics and Financing, Transportation logistics and supply chain and Transportation policy are also eligible to apply.</p> <p>#For “Advanced technologies in Transportation” area, 4-year UG degree in Mechanical, Electrical/Electronics, and PG in the field of advanced technologies in transportation are also eligible to apply.</p> <p>2] CE2 (Geotechnical Engineering): (2-i) Rock Engineering; (2-ii) Centrifuge modelling of Geotechnical structures; (2-iii) Environmental Geotechnology; (2-iv) Soft Ground Engineering.</p> <p>3] CE3 (Water Resources Engineering): (3-i) River Engineering; (3-ii) Groundwater Hydrology; (3-iii) Computational fluid dynamics in water resources engineering; (3-iv) Experimental hydraulics; (3-v) Instrumentation in water resources engineering; and (3-vi) Environmental fluid dynamics</p> <p>4] CE4 (Structural Engineering): (4-i) Structural Performance under Natural and Man-made Hazards; (4-ii) Mechanics of Advanced Materials;</p>

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		<p>(4-iii) Computational Mechanics; (4-iv) Steel and Composite Structures; and (4-v) Digitalization and Automation in Structural Engineering</p> <p>5] CE5 (Ocean Engineering): (5-i) Ocean & Wave Modelling; (5-ii) Physical Oceanography; (5-iii) Offshore Engineering*; (5-iv) Maritime Engineering*</p> <p>*For "Offshore Engineering" and "Maritime Engineering" area, 4-year UG degree in Mechanical, Aerospace, Marine Engineering, Naval Architecture, and Ocean Engineering are also eligible to apply.</p> <p>6] CE6 (Remote Sensing): (6-i) Photogrammetry (6-ii) Remote Sensing applications in atmospheric sciences or oceanography (6-iii) Geodesy (6-iv) GeoAI, Geocomputation, Geographic information science* (6-v) LiDAR Surveying*</p> <p>*For the research areas "GeoAI, Geocomputation, Geographic information science", and "LiDAR Surveying" candidates with 4 year UG degree in Geoinformatics/ Electrical/Electronics engineering are also eligible to apply.</p> <p>7] CE7 (Construction Technology and Management): (7-i) Construction Robotics (7-ii) Computational modelling/simulation of concrete behaviour (Hydration, Durability) (7-iii) Fracture Mechanics of Concrete</p> <p>In addition to the above, following areas of specialization are also invited (8-i) Urban Planning# (8-ii) Urban Informatics# (8-iii) Building Physics# # For the research area "Urban Planning," "Urban Informatics" and "Building Physics", Bachelors in Architecture are also eligible to apply.</p>
6	Computer Science & Engineering	<p>Applicants with expertise in all areas in computer science and engineering, including but not limited to Natural Language Processing, Quantum Computing, High Performance Computing, Human Computer Interaction, and Computational Biology and Bioinformatics are welcome.</p> <p>Exceptional candidates from related areas are also encouraged to apply.</p>

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7	Earth Sciences	<ol style="list-style-type: none"> 1. Groundwater Hydrogeology 2. Engineering Geology 3. Structural Geology 4. Mineral Exploration/Mining Geology 5. Computational Geosciences 6. Quantitative Geomorphology 7. Planetary Geosciences 8. Quantitative Seismic Interpretation/Seismic Reservoir Characterization 9. Petrophysics related to petroleum exploration 10. Geophysical Modeling 11. Geophysical Signal Processing 12. Sustainable mining
8	Economics	Development Economics, International Economics, Macroeconomics, Monetary Economics, and Public Economics.
9	Electrical Engineering	<ol style="list-style-type: none"> 1. Communication Theory, Systems and Networks: Millimeter-Wave/Microwave Circuits, Systems & Antennas, Communication Systems Hardware, Optical Communication, Quantum Communication, Information Theory, Cryptography; Multimedia Signal Processing; Machine Learning and Big Data. 2. Theoretical and computational methods in the area of control including Computational/numerical methods: Nonlinear, optimal and robust control, Optimization and semidefinite programming, Complex networks/systems, Adaptive control, Game theory, Model Predictive control, Stochastic/uncertain systems, Randomized algorithms, System identification/estimation, Intelligent systems, biologically-inspired methods, evolutionary computing, Fault detection, identification and fault-tolerant systems, Hybrid and switched systems, Distributed, decentralized and multi-agent systems 3. Power Electronics & Power Systems 4. Analog, Digital, Mixed-signal and RF Integrated Circuit & System Design, Biomedical circuit & systems, Neuromorphic circuits, In-memory and near-memory computing 5. Digital System Design, Test and Manufacturing: System-on Chip, DFM, Computer Architecture & Hardware, Algorithm-to-Chip Level Design, Computer-Aided-Design (CAD) in VLSI 6. Semiconductor Devices and Technology: Fabrication, Characterization, Packaging, and Reliability; Optoelectronics (Sensors); Quantum Technologies and

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		<p>Applications; Power Semiconductor Devices; Bioelectronic/Biomimetic Devices, Energy Conversion and Storage; Oxide Electronics and MEMS/NEMS, Bio and flexible electronics, logic memory AI, Photovoltaics</p> <p>Exceptional candidates from other areas of Electrical Engineering will also be considered.</p>
10	Energy Science and Engineering	<p>(1) <u>Solar-thermal energy systems</u></p> <p>Essential Qualifications: (a) Bachelor's and Master's Degree in Mechanical or Energy Engineering; (b) Ph.D. in area related to solar-thermal energy systems.</p> <p>Desirable: Combination of experimental and modeling experience is preferred, with emphasis on concentrated solar thermal applications.</p> <p>2. <u>Energy Policy</u></p> <p>Essential Qualifications: (a) Bachelor's and Master's Degree in Science or Engineering or Economics; (b) Ph.D. in area related to Energy Policy with emphasis on energy supply, demand and consumption; energy scenarios modeling; and technology assessment and forecasting at the national level.</p> <p>Desirable: Experience in energy scenarios modeling and technology assessment and forecasting; Publications in journals related to energy and energy policy.</p> <p>3. <u>Recycling of materials</u></p> <p>Essential Qualifications: (a) Bachelor's and Master's Degree in Mechanical or Energy or Chemical or Materials and Metallurgical Engineering; (b) Ph.D. in area related to recycling of materials from end-of-life energy systems-batteries, solar PV panels, wind turbine blades, etc. with focus on experiments.</p> <p>Desirable: Work related to systems level.</p> <p>Exceptional candidates in all areas relevant to the academic unit will also be considered.</p>
11	Environmental Science and Engineering	<p>Outstanding candidates in all areas of environmental science and engineering are encouraged to apply. Preference will be given to applicants who have demonstrated research and teaching expertise in the areas listed below:</p> <ul style="list-style-type: none"> ● Advanced Water and Wastewater Treatment for

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		<p>Emerging Contaminants.</p> <ul style="list-style-type: none"> ● Air Pollution: Atmospheric Modelling; Multi-Pollutant Exposure, Toxicology. ● Climate Technology & Greenhouse Gas Mitigation. ● Critical Minerals Recovery from Waste. ● Environmental Data Analytics: Using AI/ML and/or Remote Sensing and GIS. ● Environmental Ecology: Climate-Resilient Ecosystems and Biodiversity. ● Environmental Microbiology. ● Environmental Noise Pollution, Acoustics and Control. ● Environmental Sustainability and Circular Economy. ● Environmental Systems Modelling: Contaminant Fate and Transport.
12	Industrial Engineering and Operations Research (IEOR)	<p>1. Industrial Engineering: Operations planning & scheduling, Inventory control, Facility & work systems design, Quality, Reliability, Safety, in Industrial and/ or Service systems.</p> <p>2. Digital Enterprise & Automation: Digitalisation & Digital Twinning, Industrial IoT, Edge computing, Cyber-Physical systems, Blockchain, Security, Robotics.</p> <p>3. Data Science: Artificial Intelligence, Machine Learning, Reinforcement Learning, Change point detection, Computational Data Science, Human-AI interaction, Deep Learning, Large language models, Generative AI.</p> <p>4. IEOR Applications to areas such as Transportation & Mobility, Logistics, Supply Chain, Healthcare, Finance, Energy, Sustainability, Public Sector Organizations, Defence.</p> <p>5. Operations Research: Optimisation, Stochastic processes, Stochastic control, Game theory, Simulation, System dynamics, Approximation & randomized algorithms, Meta-heuristics, Network science, Quantum Computing.</p> <p>Candidates with exceptional credentials in any area of IE and OR, in addition to the above specific areas, may be considered.</p> <p>Desirable:</p> <ul style="list-style-type: none"> ● For Area 1, UG and/or PG degree in Industrial Engineering or equivalent is desirable. ● For Area 2, Experience in using, installing and/or maintaining relevant equipment, sensors, etc. with adequate exposure to experimentation, numerical modelling and computations is desirable.

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13	Mathematics	<p>The Mathematics department is seeking strong applications across all areas of Mathematics. However, the following two are the focus areas where the department actively encourages applications:</p> <ul style="list-style-type: none"> • Statistics (both theoretical and applied) • Combinatorics
14	Mechanical Engineering	<p>(1) AI/ML and Computational Engineering: (1-i) Development of AI/ML Techniques-based Computational Methodology for Thermo-fluids engineering; (1-ii) Data-Driven Constitutive modeling of Cells, Tissues, and Organs; and (1-iii) Digital Manufacturing (system simulation, digital threads, digital twins, and manufacturing analytics).</p> <p>(2) Biomechanical Engineering: (2-i) Biomedical flows, (2-ii) Bio-heat transfer; (2-iii) Kinematics and dynamics of human/animal locomotion; and (2-iv) 3D-Organ Printing.</p> <p>(3) Heat Transfer, Combustion and Energy Systems: (3-i) Refrigeration, Air-conditioning, Cryogenics, and heat pumps; (3-ii) Thermal Management of EV batteries and data centers; (3-iii) Hydrogen combustion; (3-iv) Radiative heat transfer for defense and space applications; and (3-v) Nuclear Engineering, Neutronics and Radiation Detection.</p> <p>(4) Manufacturing Processes, Systems & Automation: (4-i) Metal Casting (low-pressure and high-pressure die casting); (4-ii) Manufacturing Systems, Operation modeling and analysis; (4-iii) Manufacturing Automation and Control; (4-iv) Polymer processing; (4-v) Machine health monitoring and prognostics; (4-vi) Semiconductor fabrication and metrology; and (4-vii) Optical and biomedical device fabrication.</p> <p>(5) Materials Modeling and Characterization: (5-i) Advanced experimental in-situ mechanics (high temperature materials, short time scales and high spatial resolution); (5-ii) Reliability, mechanics and failure of integrated circuits and data storage devices; and (5-iii) Advanced Non-Destructive Evaluation (Infrared thermography, Non-Linear Ultrasonics, Tomography, TeraHz radio wave imaging)</p> <p>(6) Micro/Nano Science and Engineering: (6-i) Experimental Transport Phenomena of Complex Fluids; and (6-ii) Non-Equilibrium Thermodynamics.</p> <p>(7) Robotics, Dynamics, and Control: (7-i) Multi-agent robotic systems; and (7-ii) Engineering Acoustics and industrial noise control.</p>

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		<p>(8) Solid and Fluid Mechanics: (8-i) Tribology; and (8-ii) Fluid dynamics for Wind and Hydro Energy Applications.</p> <p>In addition to the above specific areas, applications from candidates possessing exceptional credentials in other areas are also welcome.</p>
15	Metallurgical Engineering & Materials Science	<p>(1) Battery Materials (preferably experimentalists), with special emphasis on Solid-State Batteries.</p> <p>(2) Multiferroic Materials and Devices.</p> <p>(3) Semiconductor Materials: Thin films Processing and Devices.</p> <p>(4) Manufacturing (materials joining, additive manufacturing, casting, forming)</p> <p>(5) Physical Metallurgy (preferably experimentalists)</p> <p>(6) Glass/Ceramics Process Engineering</p> <p>(7) Extraction and processing of non-ferrous metals, preferably critical metals.</p> <p>In addition to the above specific areas, applications from candidates with consistent exceptional academic records and outstanding research records in other areas (relevant to the Department's research and teaching interests) are also welcome.</p>
16	Physics	<p>ACG: Galaxy evolution and high-energy astrophysics</p> <p><u>Condensed Matter Physics (Experimental):</u></p> <ol style="list-style-type: none"> 1. Core/demonstrated expertise in single crystal and/or epitaxial growth 2. Core/demonstrated expertise in emergent areas of superconductivity/quantum magnetism/spintronics/ topological systems (materials and devices) 3. Core/demonstrated expertise in Time-resolved experiments to study different ultrafast processes in materials. <p><u>Condensed Matter Physics (Theory):</u></p> <ol style="list-style-type: none"> 1. Development and application of machine learning in quantum condensed matter 2. DFT+DMFT approach to strongly correlated systems 3. Quantum many body physics using artificial quantum platforms 4. Analytical approaches to topics such as non-equilibrium quantum dynamics, topological and interacting systems.

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		<p><u>High-energy Physics (Experimental):</u></p> <ol style="list-style-type: none"> 1. Heavy ion/p-A/p-p collisions at collider energies: Hardware development 2. Experimental low-energy nuclear physics <p><u>High-energy Physics (Theory):</u></p> <ol style="list-style-type: none"> 1. Astro-particle physics 2. Beyond Standard model and collider physics 3. Perturbative and non-perturbative QCD 4. String theory and mathematical aspects of quantum field theory <p><u>Optics/Photonics:</u></p> <ol style="list-style-type: none"> 1. Experimental ion trap/cold atom physics 2. Experimental quantum optics 3. Experimental/Theoretical strong-field and attosecond physics <p><u>Quantum Information (Theory):</u> Fundamental theoretical research in quantum information theory with applications in quantum algorithms, quantum communication, quantum sensing, quantum error correction, and light-based quantum technologies</p> <p><u>Soft-matter Physics:</u></p> <p>Experimental soft matter physics and physics of biological systems:</p> <ol style="list-style-type: none"> 1. Experimental soft matter physics, active matter physics and the physics of biological systems: Equilibrium and non-equilibrium phenomena in complex fluids 2. Study of self-assembly in soft matter systems and collective behavior, using techniques such as light microscopy, AFM, electron microscopy, optical tweezers, X-ray scattering <p>Theoretical statistical physics with a focus on analytical techniques:</p> <ol style="list-style-type: none"> 1. Analytical theories of model systems in and out of equilibrium. 2. Coarse-grained statistical field theories of non-equilibrium/active systems 3. Stochastic thermodynamics and information-theoretic approaches to biological systems
17	Ashank Desai Centre for Policy Studies	<p>The Centre is looking for candidates in areas of Public Policy with particular background in:</p> <p>(1) Digital Societies and Governance (2) Social Policy (with Special Focus on Health)</p>

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		(3) Urban Policy (4) Technology and Policy (5) Water, Sanitation, Energy and Climate Change (6) Industrial and Economic Policy
18	Centre for Climate Studies	(1) Climate Impacts and Adaptions: Climate and Health (2) Climate Mitigation and Policy: Mitigation and Development Pathways, National and Sub-National Policies In addition, outstanding applications in any area of climate studies will be considered.
19	Centre for Defence Technology Innovations and Strategies (CDTIS)	(1) AI/ML application for Cyber Defence (2) Computer Vision application for intelligence, surveillance, target acquisition, and reconnaissance (3) Reliability Modelling and Maintenance optimization of equipment (experience with military equipment preferred) (4) Human reliability assessment (5) Digital Twins and Digital Twin platforms for military applications (6) Intelligent unmanned vehicles (7) National and International Security Scenarios and Trends (8) Strategic Technology Diplomacy & International Cooperation (9) Civil-Military Strategic Technology Capacity Building
20	Centre for Educational Technology	Development of technology enhanced learning environments for various purposes; Discipline based education research, in engineering, sciences or computing disciplines; Learning sciences and cognition; Learner modeling using educational data analytics; Teacher use of educational technology; Assessment and evaluation; Technology for foundational literacy and numeracy; Social justice research in the context of technology enhanced learning. Experience with using technology tools for building interventions and carrying out research studies is essential.
21	Centre for Machine Intelligence and Data Science (C-MinDS)	Data Sciences; Machine Learning; Artificial Intelligence; Statistics; Knowledge Representation, Machine Learning theory; Generative and Agentic AI, Data and information systems; AI/ML in Text, Speech, and Natural Language Processing; Computer Vision; Robotics and Autonomous Systems; Systems and Computational issues in AI/ML/DS; AI/ML/DS in Science and Engineering application areas including Finance, Health, Sustainability, Transportation, Mechanics, Industry. Social choice, Game theory, Multiagent systems; AI and Society, Policies, Trust, Ethics; Any other significant AI/ML area.

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22	Centre for Semiconductor Technologies (SemiX)	<p data-bbox="620 197 928 231"><u>Advanced Packaging</u></p> <ul data-bbox="683 264 1419 600" style="list-style-type: none"> • Heterogeneous Integration, 2.5D/3D Packaging - Design (Mechanical/Thermal) and fabrication. • Materials and Process Technologies for Backside Power and Signal Delivery. • Materials and Process Technologies for Advanced Packaging (2.5D/3D/ Chiplet). • Advanced Substrates with fine-pitch RDLs (Multilayer organic, Glass panel). • Thermal heat dissipation in semiconductor packaging (1st level packaging) <p data-bbox="620 632 1057 665"><u>Semiconductor Manufacturing</u></p> <ul data-bbox="683 699 1247 867" style="list-style-type: none"> • Electronic Design Automation • Wafer Fab Equipment Development • Semiconductor Metrology • Semiconductor Test & Quality Control • Process control and manufacturing yield <p data-bbox="620 898 1024 932"><u>Semiconductors for Display</u></p> <ul data-bbox="683 966 1403 999" style="list-style-type: none"> • Materials, Processes, and Devices for LED Displays <p data-bbox="620 1031 1419 1102"><u>Semiconductors for High Performance Computing (HPC, including AI and quantum hardware)</u></p> <ul data-bbox="683 1136 1419 1438" style="list-style-type: none"> • Logic & Memory: Materials including silicon ingots and wafers, Process and Device Technology • Digital & AMS Design, Microprocessor, AI Accelerators • Neuromorphic Engineering • Materials, Processes, Devices for Quantum Technologies • Computing Systems, Architecture and Algorithms • Computing Systems Design and Packaging <p data-bbox="620 1470 959 1503"><u>Power Semiconductors</u></p> <ul data-bbox="683 1537 1419 1738" style="list-style-type: none"> • Materials, Processes, Devices and Modules for Power Management • Thermal conductive substrates for high-power applications • Power Management IC Design • Power Semiconductor Packaging <p data-bbox="620 1770 1321 1803"><u>Semiconductors for High-speed Communications</u></p> <ul data-bbox="683 1837 1419 1934" style="list-style-type: none"> • Wireline and Optical Circuits • Materials, Processes, Devices and Packaging for RF and Terahertz Electronics

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		<ul style="list-style-type: none"> ● Materials, Processes, Devices and Packaging for Photonics <p><u>Semiconductors for Sensing</u></p> <ul style="list-style-type: none"> ● Materials, Processes and Devices for Sensors, including, MEMS, PiezoMEMS, Optical MEMS ● Sensor Circuit and System Design, including CMOS-MEMS Co-integration, MEMS and Sensor Packaging <p>Outstanding candidates with expertise in other areas of semiconductor engineering are also encouraged to apply.</p>
23	Centre for Systems and Control Engineering	<p>Core areas of dynamical systems and control, autonomous systems, robotics, distributed control, quantum control, learning, and data sciences. Emerging areas of control and decision sciences interacting with classical and quantum information, inference theory, complex systems, high-dimensional phenomena, networking and security, model approximation, communication, signal processing, flexible structures and systems biology.</p> <p>Candidates with strong foundational and/or translational research in the above mentioned core and emerging areas applied to autonomous vehicles, vision, robotics, aerial and space technology, quantum systems, defense technology and fintech are welcome to apply.</p>
24	Centre for Technology Alternatives for Rural Areas (C-TARA)	<p>Science and Technology applications towards sustainable development using concepts in the following thematic areas:</p> <ol style="list-style-type: none"> (1) Public Policy and Governance (2) Development, Technology, and Society (3) Technology, Development, and Dissemination (4) Agriculture and Food Technology (5) Ecology and Livelihoods (6) Inclusive Design, Innovation and Entrepreneurship in the Rural Context.
25	Centre for Traditional Indian Knowledge and Skills (CTIKS)	<ul style="list-style-type: none"> ● Indian Mathematics and Astronomy ● Linguistics and Language Technology ● Yoga and Wellness Science ● Ancient Water Management Systems ● Conservation of Heritage Structures ● Indian Financial and Business Models ● Traditional Indian Skills
26	Centre of Studies in Resources Engineering (CSRE)	<ol style="list-style-type: none"> (1) Computer Vision (CV) with focus on Satellite data processing. (2) Microwave remote sensing (3) Geospatial Applications in Hydrology, Hydroinformatics

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		and water resources (4) Geo AI with application to earth system sciences (5) Geospatial Data Science (6) Atmospheric Science (7) Urban Remote Sensing (8) Lithosphere study and mineral resources (9) Photogrammetry, GNSS, GPS, LiDAR, Surveying and Geodesy (10) Agro-informatics and precision agriculture (11) Oceanography, Coastal and Marine studies (12) Natural Hazards and Disaster Management (13) Forestry and Ecology
27	Koita Centre for Digital Health (KCDH)	(1) AI ML and Large Language Models for Healthcare and biomedical informatics. (2) Computational aspects of biomedical science and engineering, Multi-omics. (3) Healthcare devices, Physiological Monitoring and biomedical signal analysis. (4) Data driven healthcare policy study, and health economics. (5) Quantitative Public Health, disease modelling and epidemiology.
28	Motilal Oswal Centre for Capital Markets	(1) Market Microstructure. (2) Asset Pricing, and Portfolio Management. (3) Financial Data Science, and AI in Banking, Financial Markets, and Insurance. (4) Financial Engineering, and Risk Management. (5) Banking, Fintech, Crypto Assets, Digital Finance. (6) Green and Sustainable Finance, ESG Investing. (7) Fixed Income, Currency, and Commodity Markets. (8) Governance and Regulation of Financial Institutions and Markets. (9) Financial Inclusion and Market Access. (10) Global and Emerging Financial Markets. (11) Algorithmic Finance. (12) Financial Stability and Systemic Risk. (13) Computational Finance. (14) LLMs in Finance. (15) Alternative Investments
29	Desai Sethi School of Entrepreneurship	(1) Technology entrepreneurship: product design, development, innovation, IP management, technology licensing. (2) Business models for startups; leadership & team building for new ventures. (3) Innovation, incubation, entrepreneurship ecosystem, commercialization, policy, education, corporate entrepreneurship. (4) Process of innovation & entrepreneurship, sustainability, energy transitions, climate change,

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		entrepreneurship in MSMEs.
30	IDC School of Design	Industrial Design, Mobility & Vehicle Design, 3D Animation, Interaction Design, Game Design, Service Design.
31	Shailesh J. Mehta School of Management	(1) Accounting and Finance (2) Human Resources Management (3) Information Systems/Technology (4) Marketing Management (5) Operations Management (6) Organizational Behaviour (7) Strategic Management (8) Technology/Innovation Management (9) Competitiveness (10) Applications of AI and Data Science in Management (Mere fulfilment of eligibility criteria doesn't entitle a candidate to be shortlisted)