

Annexure-A

Department of Bio-Technology	Department of Chemical Engineering
<ul style="list-style-type: none"> • Biotechnology/ Industrial Biotechnology • Food and Biochemical Engineering/ Bioprocess Engineering/ Bioprocess Technology • Biopharmaceutical Technology/ Bioinformatics • Nano-science and Engineering • Industrial Biotechnology • Enzyme & Fermentation Technology • Downstream processing 	<ul style="list-style-type: none"> • Phase Change materials • Synthesis and Applications of Nanoparticles • Interfacial Science • Environmental Engineering • Inorganic Membranes • Fruit Juice Clarification • Wastewater Treatment • Bio-Separations
Dept. of Civil Engineering	Dept. of Computer Science & Engineering
<ul style="list-style-type: none"> • Ground Improvement Techniques • Soil Dynamics and Geotechnical Earthquake Engineering • Energy Geotechnics and Environmental Geotechnics • Foundation Systems for High-Rise Structures • Remote Sensing & GIS • GIS based hydrological modelling • Soft computing techniques • Water shed modelling • Water & Wastewater Treatment–Toxicity Studies • Emerging Contaminants- Fate & Transport • Life Cycle Assessment & Risk Assessment • Bio-Char based Contaminant Removal and Environmental Geo-technics 	<ul style="list-style-type: none"> • Machine Learning for language, vision and control • Text/ Web Mining • Parallel and Distributed Algorithms • Randomized and Approximation Algorithms • Educational Data Mining • Deep Learning for Vision and NLP • Query Optimization for Big Data Computing • Privacy Preserving Data Mining • Big Data Analytics • Soft Computing • Cryptography & Information Security
Department of Electrical Engineering	Dept. of Metallurgical & Materials Engineering
<ul style="list-style-type: none"> • Power Electronics and Drives • Multilevel converter/ inverters topologies • DC-DC converter topologies • On/Off-line Grid connected renewable/hybrid energy systems • Power quality • Hybrid Electric Vehicles • Application of optimization techniques to power electronic systems • Other relevant areas of power electronics 	<ul style="list-style-type: none"> • Welding Metallurgy • Corrosion of Welds • High Temperature Materials • Composite Materials • Powder Metallurgy • High Temperature Materials • ODS Steels • Materials Characterization

<p align="center">Department of Mechanical Engineering</p>	<p align="center">Dept. of Electronics & Communication Engg.</p>
<ul style="list-style-type: none"> • IC Engines • Emissions Control • Refrigeration and Air-Conditioning • Energy Efficient Buildings • Renewable Energy • Alternative fuels • Energy Systems • Alternative Energy Systems • Manufacturing(Forming and Casting) • Advanced and Smart Materials (Ni, Ti, Steels and other materials)for Mechanical, Thermal and Electrical Applications • Development and Properties evaluation of Metal Matrix Composites • Development and Properties evaluation of Polymer Matrix composites and Carbon- Carbon Composites • Advanced Materials • Additive Manufacturing • Advanced Machining Technologies • Manufacturing processes 	<ul style="list-style-type: none"> • Next Generation Wired and Wireless Communication Technologies • 1D, 2D and 3D Signal Processing • Analog and Digital VLSI • Antennas and RF Technologies
	<p align="center">Department of English</p>
	<ul style="list-style-type: none"> • African American Theatre • First Nations Theatre • Diaspora Studies • Gender Studies
<p align="center">Department of Physics</p>	<p align="center">Department of Mathematics</p>
<ul style="list-style-type: none"> • Experimental Condensed Matter • Strongly Correlated Electron Systems • Multifunctional Properties of Magnetic Oxides • Magnetism and Superconducting properties of bulk and thin films. 	<ul style="list-style-type: none"> • Wave Mechanics, • Elasto-dynamics • Differential Equation