Details of desired Specializations required in various departments

S.No.	Name of the Department	Desired Specialization
1	Department of Architecture	**Architecture**-Architecture, Urban design, Sustainable architecture, **Planning**-Housing, Transport Planning, Urban Planning, City Planning, Town Planning, Environmental Planning, Regional Planning, **Others**-Construction management, Building Engineering Management, Landscape Architecture, Architectural Conservation, Building Science and Technology, Any other related field,
2	Department of Applied Geology	Petrology, Hydrogeology, Economic Geology and Engineering Geology
3	Department of Biotechnology Engg.	Molecular Biophysics, Metabolic Engineering, Genomics, Proteomics, Nano-biotechnology, Immunotechnology, Plant Biotechnology
4	Department of Biomedical Engg.	Tissue Engineering, Bioelectronics, Biomedical Instrumentation, Biomechanics, Rehabilitation Engg., Bio Fluid Dynamics, Medical Informatics, Bio Sensors, Clinical Engg.,Medical Imaging, Biomedical Device Design, Biomedical Signal Processing, Biomaterials, Bio Mems, Telemedicine, Medical Image Processing
5	Department of Chemical Engg.	Process Modelling & simulations, Process Control, Chemical Process Equipment Design, Advanced Separation Process, Computational Fluid Dynamics
6	Department of Civil Engg.	Concrete Technology, Structural Engineering, Geo-technical Engineering
7	Department of Chemistry	Physical Chemistry, Applied Chemistry, Inorganic Chemistry, Organic Chemistry, Environmental Chemistry, Analytical, Nano-science and Nano-technology.

S.No.	Name of the Department	Desired Specialization
8	Department of Computer Science & Engg.	Data Mining, Network & Cyber Security, Wireless Sensor Networks, Mobile & Pervasive Computing, Parallel & Distributed Computing, IoT & Cloud Computing, Computer Vision and Image Processing, Natural Language Processing, Theoretical Computer Science, Artificial Intelligence (Machine Learning, Deep Learning, Soft Computing etc.), Big Data Processing.
9	Department of Electrical Engg.	Control system, Power Electronics, Power System, Electric Machine and Drives, Signal Processing, Measurement and Instrumentation, Electronics, Renewable Energy and allied areas of Electrical Engg.
10	Department of Electronics & Telecommunication	VLSI Architecture design, DSP, DSP hardware design, Image processing, Microwave & RF Design and Engg. Artificial Intelligence & Machine learning, Data communication, Computer and Telecommunication networking, Communication Engineering, WSN
11	Department of Humanities & Social Science	Professional Communications in English (English Communication Skills), Managerial Skills, Personality development, Innovative and entrepreneurial Skills (Management), Value-education, Yoga, Sociology, Psychology.
12	Department of Information Technology	Object Oriented Software Engg.,Next Generation Networks,Information Security, NaturalComputing, Data Modelling, BigData Analysis, Image Processing,Deep Learning, theoreticalcomputer science.
13	Department of Mechanical Engg.	Machine Design, Solid Mechanics, Ergonomics & Industrial design, Robotics, Thermal Engg., Renewable Energy sources, Refrigeration 7 Airconditioning, IC Engines, Solar thermal Applications, Energy, Power plant Engineering, Turbo Machinery, Computational fluid Dynamics, Production Engg., Industrial Engg and Management, , Sustainable Manufacturing, Supply Chain Management, Manufacturing System, CAD-CAM, FEA

S.No.	Name of the Department	Desired Specialization
14	Department of Metallurgical Engg.	Metallurgical Thermodynamics and Kinetics, Iron Making, Steel Making, Non-Ferrous Extraction, Fracture mechanics and failure analysis, Deformation behaviour of materials, Materials simulation and modelling, Functional materials, Bio-materials, Polymer Engineering, Powder Metallurgy
15	Department of Computer Application(MCA)	Data Mining, Network & Cyber Security, Wireless Sensor Networks, Mobile & Pervasive Computing, Parallel & Distributed Computing, IoT & Cloud Computing, Computer Vision and Image Processing, Natural Language Processing, Theoretical Computer Science, Artificial Intelligence (Machine Learning, Deep Learning, Soft Computing etc.), Big Data Processing, Decision Support Systems, Computer networks, Optimization, Information Security, Algorithms.
16	Department of Mathematics	Probability and Statistics, Operation Research, Numerical Analysis and Scientific Computing, Fluid and solid Mechanics, Mathematical Modelling, Partial Differential Equation, Algebra, Linear Algebra, Complex Analysis, Wavelet Analysis, Cryptography.
17	Department of Mining Engg.	-----------------------
18	Department of Physics	-----------------------

For Serial Number 17 and 18 only Internal Faculty members may apply as per Schedule 'E' of NIT statues (Amended 2017) (Ref. Gazette of India No. 651, dated July, 24, 2017).

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