

**Pre-Requisite and area of research for admission in to
various disciplines of Ph. D. programmes (Autumn Semester
2018)**

A. UGC eligibility criteria in the Prospectus may be referred to.

B. Pre-requisites and area of research:

Sl.No	School	Department	Pre-requisite	Area of Research
1	Engineering	Civil Engineering	(a) M.E./M.Tech. /M.Sc.(Engg.) in Civil Engg. or allied areas or (b) M.Sc. in relevant discipline with minimum 70% marks in aggregate or equivalent CGPA or (c) B.E. / B.Tech with 75% marks in aggregate or equivalent CGPA with a valid GATE Score. Minimum two recommendation Letters from the Institute/University from where B.E./B.Tech degree was obtained.	Geotechnical Engineering, Environmental Engineering.
2	Engineering	Computer Science & Engineering	M.Tech. in Computer Science/ I.T./ Electronics MCA M.Sc. in Computer Science/ I.T. B.E. / B.Tech with 75% marks in aggregate or equivalent CGPA with a valid GATE Score. Minimum two recommendation Letters from the Institute/University from where B.E./B.Tech degree was obtained.	Software Define Network, Network Function Virtualizations, Internet of Things, Machine Learning, Bioinformatics, Natural Language Processing, Speech Processing, Pattern Recognition, Data Mining, Computational Geometry, Algorithms, Computational Biology, Bioinformatics, Cognitive Radio Networks.
3	Engineering	Electronics & communication Technology	M.E. / M.Tech. / M.Sc. Engg. / M.S. in Electronics/ Communication/ Electronics Design/ Electrical/ Instrumentation/ Control/ Microwave/ Biomedical/Bioelectronics/ Bio-Technology/ Computer Science/ Information Technology. M.Sc. in Electronics/ Physics/ Applied Mathematics. MCA with Physics, Chemistry and Mathematics in Bachelor	Clinical Instrumentation, Microfabrication, MEMS Sensor, Biomedical Signal/Image Processing, Compressed Sensing, Computer Vision, Rehabilitation Robotics, Biomedical Signal Processing.

			<p>degree, MBBS with MD/ MS degree.</p> <p>B.E. / B.Tech with 75% marks in aggregate or equivalent CGPA with a valid GATE Score.</p> <p>Minimum two recommendation Letters from the Institute/University from where B.E./B.Tech degree was obtained.</p>	
4	Engineering	Energy	<p>M.Sc. / M.E. / M.Tech. degree in Energy Technology/ Energy Management/Energy related Engineering and Technology/ Physics/ Chemistry/Agriculture Allied subjects.</p>	<p>Energy Management, Renewable Energy, Bio-Energy, Energy-Environment, Solar Energy, Photovoltaic, Energy Systems, Fuel Cells, Hydrogen Technology, Energy Storage Devices.</p>
5	Engineering	Food Engineering and Technology	<p>M.Tech. / M.E. /Integrated M. Tech in Food Engineering and Technology/Food and Dairy related other programme/Mechanical Engineering/Chemical Engineering/Bio-Process/Bio-Chemical/Biotechnology, or, M.Sc. and Integrated M.Sc. in Food Engineering and Technology/Food and Dairy related other programme/Applied Microbiology/Microbiology/Bio-Chemistry/Chemistry/ Biotechnology/Bioscience and Informatics, or,B.E./B.Tech (in Food Engineering and Technology/Food and Dairy related other programme) with 75% marks in aggregate or equivalent CGPA with valid GATE Score). Minimum two recommendation Letters from the Institute/University from where B.E./B.Tech degree was obtained.</p>	<p>Functional ingredients/ Food processing/ Process modelling/ Food Processing Engineering/Fruits Veg. Processing/Food Machineries/ Non thermal processing / Biosensors/Microbial fuel cell/ Fruits and veg. Processing/ Food Packaging, Extraction of Bioactive components/ Food Process Engg. Biopolymers/ Thermal & Non-Thermal Processing.</p>

6	Engineering	Mechanical Engineering	M.E. / M.Tech. / M.Sc. (Engg.) in Mechanical Engg. or allied areas. B.E. / B.Tech with 75% marks in aggregate or equivalent CGPA with a valid GATE Score. Minimum two recommendation Letters from the Institute/University from where B.E./B.Tech degree was obtained.	Renewable Thermal Energy, Drying Technology, Solar Energy Based Cogeneration System, Optimization.
7	Humanities & Social Sciences	Cultural Studies	M.A. in any of the disciplines in Humanities or Social Sciences with a uniformly good academic career. Candidates with UGC JRF, UGC NET or NE SET will be given preference	Gender Studies, Cyber Culture, Cultural Memory, Medical Anthropology.
8	Humanities & Social Sciences	Education	Post Graduate in Education or in any allied discipline/subjects with 55% marks.	School Education, Teacher Education, Inclusive Education, Curriculum Studies and Educational Management, Language Education, Educational Technology, Social Science Education, Physical Science and Biological Science Education, ICT in Education, Educational Administration, Special Education, Language Education, Environment Education.
9	Humanities & Social Sciences	English and Foreign Languages	M.A. in English (specialization may be in Literature, English Language Teaching or Linguistics) M.A. in Linguistics	American Literature, Critical Theory, Fiction Studies, Postcolonial Studies, Translation Studies, Life Writing, Travel Writing, Shakespeare Studies, Migration and Diaspora Studies, Translation, Indian Writing in English, Syntax, Field Linguistics: Documentation of Tibeto-Burman Languages of North East India and Applied Linguistics, Linguistics(General & Cognitive), Philosophy of Language, ELT, Curriculum Development, Materials

				Production, Postcolonial Studies with Special Interest in Migration and Diaspora, Language Policy, Gender and Literature, New Literatures in English, Vernacular Public Sphere, Colonial Northeast India, Ecocriticism, Popular Culture, Language Typology, Morphology, Language Endangerment, Multilingualism, Sociolinguistics.
10	Humanities & Social Sciences	Hindi	M.A. in Hindi	Applied Linguistics, Indian Poetics & Folklore, Linguistics, Poetry & Journalism, Fiction & Modern Hindi Literature.
11	Humanities & Social Sciences	Mass Communication & Journalism	M. A. in Mass Communication, Mass Communication & Journalism/ Communication. Master of Mass Communication (MMC). Master of Journalism & Mass Communication (MJMC). Master of Science in Communication (M. S. Communication). M. Sc. Communication. Master of Journalism.	Journalism, Radio, Development Communication, Science & Health Communication, Specialized Reporting, Media Studies, Cultural and Subaltern Studies, International Communication, Film Studies, Media and Society, Culture and Communication, ICT Implications.
12	Humanities & Social Sciences	Sociology	Post-Graduation in Sociology / Cultural Studies / Anthropology (with specialization in Social Anthropology) / Economics / History / Political Science / Philosophy / Mass Communication / English / Law / Management/ Social Work.	Social Movements, Tribal Research, Sociology of Education, Sociology of Religion, Sociology of Art.
13	Management Sciences	Business Administration	M.B.A. , M.Com. , M.A. / M.Sc. in Economics ,M.A. in Psychology/ Sociology/Social Work/Cultural Studies, MCA , M.T.M. / M.T.A. FCA/ FCS/ FICWA	Services Marketing/ Tourism Marketing, Financial Management, Financial Markets and Development Finance, Tourism, Marketing, Change Management & Human Resource Management, Organization Behavior, Business Optimization,

				Operations, Quality, Operation in Tourism, Rural Development, Entrepreneurship Development, Finance, Agri Business, Rural Development.
14	Sciences	Chemical Sciences	M.Sc. in all branches of Chemical Science/ Physics/Nanoscience/ Material Science/ Biotechnology/ Biochemistry/ Bioinformatics/ Environmental Science. M.E./M.Tech. in allied subjects (Chemical Engineering/ Polymer Technology/ Material Sciences/ Environmental Engineering etc.); B.Tech. in Chemical Engineering/ Polymer Technology/ Material Sciences/ Environmental Engineering, etc. (with 80% marks in aggregate or equivalent grade).	Polymer Science, Polymer Chemistry, Polymer Nano Composite, Catalysis, Theoretical & Drug Design, Organic Synthesis, Heterocyclic Chemistry, Computational Inorganic/ Organometallic Chemistry, Organic Synthesis & Green Chemistry, Chemical Sensor & Biosensor, Catalysis, Heterogeneous Catalysis.
15	Sciences	Environmental Science	Masters in any Science/ Applied Science / Engineering discipline with at least 55% marks or equivalent CGPA. At Bachelor's level the candidate must have attended Science / Technology programme.	Air Pollution and Environmental Monitoring and Assessment, Geomorphology, Regional Climate, Forest Ecology, Behavioural Ecology, Ethnobotany, Wildlife & Biodiversity Conservation.
16	Sciences	Mathematical Sciences	M.A. / M.Sc. in Mathematics/ Statistics/ Physics/ Computational Seismology/ Economics with requisite background in Mathematics.	Number Theory, Topology, Fuzzy Sets and Applications, Nonparametric Density, Distribution Function Estimation, Empirical Research in Finance, Ring Theory, Computational Fluid Dynamics, Theory of Finite Group / Ring, Algebraic Graph Theory, Number Theory, Finite Element Method, Numerical PDE.
17	Sciences	Molecular Biology and Biotechnology	Masters in any branches of Life Sciences/ Physical Sciences/ Chemical Sciences/ Mathematical Sciences/ Agricultural Sciences / Veterinary or Sciences /	Phytomeditional and related products, Cancer Genetics & Chemoprevention, Drug Development, Snake Venom, Immunology &

			<p>Engineering Sciences /Medical Sciences or in any allied field. B. Tech./ B. E. degree with 80% marks in CGPA (with GATE score > 90.00 percentile) in Chemical Engineering/ Chemical Sciences/ Bioinformatics or any allied field. MBBS or BVSc. degree with at least 60% marks or equivalent CGPA. Apart from the above, candidates having consistently good academic record will be preferred.</p>	<p>immuno Genetics, Microbial Biotechnology, Scientific validation of traditional medicines, Plant pathogen interaction, Nanobiotechnology, Environmental Biology, Computational Biophysics, Insulin resistance & Type 2 diabetes, Computational Biotechnology & Bioinformatics, Molecular Virology, Human Molecular Genetics.</p>
18	Sciences	Physics	<p>M.Sc. in Physics/ Electronics/ Geophysics/ Material Science/ Applied Mathematics/ Nanoscience and Technology/ Biotechnology/ Environmental Science and Chemical Science. M.Phil., M.Tech. in Solid State Material/ Material Science/ Electronics/Energy/ Nanoscience and Technology/ Biotechnology/ Environmental Science and Chemical Sciences. B.Tech. in Engineering Physics with 80% marks in aggregate or equivalent CGPA.</p>	<p>Condensed Matter Physics, Materials Science, Plasma Physics, High Energy Physics, History of Physics, Particle Cosmology, Surface Science, Applied Photonics, CMP/Nanobio, Fiber Optics and Instrumentation, Sensors, Geophysics, Microwave Materials & Devices, Astro-Plasma Physics.</p>