

## Annexure-II

The minimum essential qualifications with relevant fields and desirable areas of specialization in the departments which have vacancies for the post of Assistant Professor Grade-I (Level-12)

Ref: **Advt No. Estt. /2026/Asst. Prof/1594 dated October 15, 2026**

| Sr. No. | Name of Department             | Minimum Essential Qualifications                                                                                                                                                                                                                                                                                                 | Desirable areas of Specializations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| 1.      | Computer Science & Engineering | <b>B.E./B.Tech.</b> or equivalent in Computer Science & Engineering / Computer Engineering/Information Technology/Computer Technology/Information and Communications Technology/ Artificial Intelligence/ Data Science or any relevant discipline                                                                                | <b>1. Computer Systems, Architecture &amp; High-Performance Computing:</b> Computer Architecture, Digital Logic, OS, Compiler Design, Algorithms & Complexity, HPC, Parallel/Concurrent Computing, Embedded Systems, Quantum Computing, Theoretical Computer Science<br><b>2. Computer Networks, Cloud &amp; Distributed Systems:</b> Computer Networks, Distributed Systems, Cloud Computing, DevOps, Edge/Fog Computing, IoT, Cyber-Physical Systems, Drones and related systems, Blockchain and Distributed Ledger Technology<br><b>3. Cybersecurity, Software Security &amp; Digital Forensics:</b> System Security, Software Security, ML for Security, Hardware Security, Digital Forensics, IoT Security, Vulnerability Management & Mitigation<br><b>4. Software Engineering, Formal Methods &amp; Program Analysis:</b> Software Engineering, Formal Methods, Software Verification, Software Testing, Program Analysis<br><b>5. Artificial Intelligence, Machine Learning &amp; Data Science:</b> AI, Applied ML, Data Science, Deep Learning, Intelligent Systems, Robotics, Agentic AI, Generative AI, Explainable AI, Big Data Analytics, Game Theory, Edge AI, AI for Sustainable Development<br><b>6. Computer Vision, Image</b> |
| 2       | Artificial Intelligence (AI)   | <b>M.E./M. Tech./MS</b> in Computer Science & Engineering/ Computer Engineering/Information Technology/Computer Technology/Information and Communications Technology/ Artificial Intelligence/ Data Science or any relevant discipline.<br><br><b>Ph.D.</b> in any of the areas of specialization or any relevant specialization |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |

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|   |                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><b>Processing &amp; Natural Language Processing:</b> Computer Vision, Image Processing, NLP, Multimodal AI, Language Intelligence</p> <p><b>7. Human–Computer Interaction &amp; Game Design:</b> HCI, Game Design, Interactive Computing, Cognitive Computing, UI/UX Design, Extended Reality, Smart Systems</p>                                                                                                         |
| 3 | Electrical Engineering | <p>B.E./B. Tech. or equivalent in Electrical Engineering /Electrical and Electronics Engineering/ Instrumentation and Control Engineering / Power Systems Engineering /Electrical Power Engineering/ Electrical and Instrumentation Engineering/Power Electronics/Electrical Engineering and Industrial Control/Power Electronics and Instrumentation Engineering/ Applied Electronics and Instrumentation</p> <p>M.E./M. Tech. or equivalent in Electrical Engineering/ Power System/ Power Electronics and Drives/ Control Systems/ Electric Drives and Control/ Instrumentation and Control/ Electrical- Control and Automation/ Machines and Electrical Drives/ Energy Systems/ Signal Processing and Control/Microprocessor System Applications/Computer Controlled Industrial Power/ Electric Vehicles/ Electric Vehicle Technology/ Electric Mobility and Drives/ Systems Engineering or relevant discipline</p> <p>Ph.D. in relevant discipline</p> | <ul style="list-style-type: none"> <li>• Power Systems</li> <li>• Instrumentation and Control</li> <li>• Renewable Energy/Energy Systems Engineering</li> <li>• High Voltage Engineering</li> <li>• Power Electronics</li> <li>• Electrical- Control and Automation</li> <li>• Electric Vehicle Technology</li> <li>• Electric Mobility and Drives</li> <li>• Electric Vehicle Powertrain and Battery Management</li> </ul> |

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| 4 | Electronics Engineering | <p><b>B.E./B.Tech.</b> or equivalent in Electronics Engineering, Electronics &amp; Communication Engineering</p> <p><b>M.E./M.Tech.</b> or equivalent in Electronics Engineering/ Electronics &amp; Communication/VLSI &amp; Embedded System</p> <p><b>Ph.D.</b> in relevant discipline</p>                                                                                                                                | <ul style="list-style-type: none"> <li>• RF and VLSI Design</li> <li>• Analog and Digital Mixed-Signal Design</li> <li>• Neuromorphic Computing</li> <li>• Biomedical Image Processing</li> <li>• Embedded Systems and Processor Architecture</li> <li>• Quantum Sensing and Quantum Communication</li> <li>• Unmanned Aerial Systems and Robotics</li> </ul>                                                                                                                                                                                                                         |
| 5 | Chemical Engineering    | <p><b>B.E. / B.Tech. in Chemical Engineering / Chemical Technology</b></p> <p><b>M.E. / M.Tech. in Chemical Engineering/ Allied Branches</b></p> <p><b>Ph. D. in relevant discipline.</b></p>                                                                                                                                                                                                                              | <ul style="list-style-type: none"> <li>• Biochemical Engineering</li> <li>• Chemical System Modelling</li> <li>• Colloids and Interface Science</li> <li>• Computational Modelling</li> <li>• Electrochemical Engineering</li> <li>• Energy Storage</li> <li>• Environmental Engineering</li> <li>• Fluid and Granular Mechanics</li> <li>• Machine Learning and Artificial Intelligence in Chemical Engineering</li> <li>• Nanotechnology</li> <li>• Pharmaceutical Technology</li> <li>• Reaction Engineering</li> <li>• Separation Techniques</li> <li>• Sustainability</li> </ul> |
| 6 | Mechanical Engineering  | <p><b>B.E./B.Tech.</b> or equivalent in Mechanical Engineering/ Production Engineering/ Mechanical &amp; Production Engineering/ Design Engineering/ Industrial Engineering/ Thermal Engineering/ Production &amp; Industrial Engineering/ / Manufacturing Processes and Automation Engineering/ Manufacturing Engineering / Automobile Engineering</p> <p><b>M.E./M.Tech.</b> or equivalent in Mechanical Engineering</p> | <p><b>Robotics and Dynamical Systems</b></p> <ul style="list-style-type: none"> <li>- Mechatronics</li> <li>- Soft Robotics</li> <li>- Design of Robotic Systems</li> <li>- Nonlinear Dynamics</li> <li>- Autonomous Systems</li> <li>- AI in Robotics</li> </ul> <p><b>Solid Mechanics and Design</b></p> <ul style="list-style-type: none"> <li>- Machine Design</li> <li>- Design and Dynamics</li> <li>- CAD/CAM</li> <li>- Vibrations</li> <li>- Fracture Mechanics</li> <li>- Constitutive Modeling of Materials</li> </ul>                                                     |

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|  |  | /Design/Industrial/Production/<br>Thermal or any other relevant<br>Specialization of Mechanical<br>Engineering / CAD-CAM / Thermal<br>System Design / Manufacturing<br>Engineering / Turbomachines &<br>Propulsion<br><br><b>Ph.D.</b> in relevant discipline. | <ul style="list-style-type: none"> <li>- Contact Mechanics</li> <li>- Damage Mechanics</li> <li>- Advanced Materials and Composites</li> </ul> <b>Micro/Nano Mechanics</b> <ul style="list-style-type: none"> <li>- Micro/Nanoscale Mechanics and Materials</li> <li>- Non-local Elastodynamics</li> <li>- Micro/Nano-Electromechanical Systems (MEMS/NEMS)</li> <li>- Microfluidics</li> <li>- Nano Tribology</li> <li>- Nanotechnology</li> </ul> <b>Manufacturing and Industrial Engineering</b> <ul style="list-style-type: none"> <li>- Advanced Manufacturing Methods</li> <li>- Micro-manufacturing</li> <li>- Additive Manufacturing</li> <li>- Digital Manufacturing / Industry 4.0</li> <li>- Metal Forming</li> <li>- Laser Surface Engineering</li> <li>- Production Engineering</li> <li>- Manufacturing in Microgravity</li> </ul> <b>Thermal and Fluid Engineering</b> <ul style="list-style-type: none"> <li>- Computational Fluid Dynamics (CFD)</li> <li>- High-Speed Flow</li> <li>- Turbomachines and Jet Propulsion</li> <li>- Bio-heat Transfer</li> <li>- Biofluidics</li> <li>- Geo-physical Fluid Dynamics</li> <li>- Cryogenics</li> <li>- Non-intrusive Experimental Techniques</li> </ul> <b>Energy and Combustion</b> <ul style="list-style-type: none"> <li>- Energy Harvesting and Conversion</li> <li>- Combustion</li> <li>- Sustainable Energy Systems</li> <li>- Hydrogen Economy and Fuel Cells</li> </ul> <b>Biomechanics and Bioengineering</b> <ul style="list-style-type: none"> <li>- Biomechanics</li> </ul> |
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|   |         |                                                                                                                                                                                                                                                                                                                                                                             | <ul style="list-style-type: none"> <li>- Biomaterials and Tissue Engineering</li> <li>- Bio-inspired Design</li> <li>- Biologically Inspired Materials</li> </ul> <b>AI and Optimization</b> <ul style="list-style-type: none"> <li>- AI Applications in Mechanical Engineering</li> <li>- Machine Learning</li> <li>- Optimization</li> <li>- Operations Research</li> </ul> <b>Emerging Areas</b> <ul style="list-style-type: none"> <li>- Digital Twin Technology</li> <li>- Cyber-Physical Systems</li> <li>- Wearable Technology and Smart Fabrics</li> <li>- Advanced Aerodynamics and Flow Control</li> <li>- Tissue Engineering and Regenerative Medicine</li> <li>- Space Exploration Technologies</li> </ul> <b>Other Relevant Areas</b> <ul style="list-style-type: none"> <li>- Automobile Engineering</li> <li>- Maintenance and Safety Engineering</li> <li>- Welding</li> </ul> |
| 7 | Physics | <p><b>Bachelor Degree</b> in Physics or Engineering Physics<br/>AND<br/><b>Master Degree</b> in Physics, Engineering Physics or equivalent</p> <p>OR</p> <p><b>Five Years Integrated/Dual Degree</b> Programme in Physics, Engineering Physics or relevant discipline</p> <p><b>Ph.D.</b> in Science/Engineering with specialization in the relevant field of research.</p> | <ol style="list-style-type: none"> <li>1. Quantum Computing/Quantum Communications/ Quantum Sensing/ Quantum Materials</li> <li>2. Optics and Photonics</li> <li>3. Semiconductor Physics and Devices</li> <li>4. Electronics</li> </ol> <p>Cosmology, Astrophysics, and Space Science</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |

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| 8  | Chemistry                | <p><b>Bachelor Degree</b> in Chemistry or Engineering Chemistry/Industrial Chemistry</p> <p>AND</p> <p><b>Master Degree</b> in Chemistry or Industrial Chemistry or Applied Chemistry or equivalent</p> <p>OR</p> <p><b>Five Years Integrated/Dual Degree</b> Programme in Chemistry, Industrial Chemistry/Applied Chemistry/Engineering Chemistry or relevant discipline</p> <p><b>Ph.D.</b> in Chemistry/Chemical Science/Engineering Chemistry with specialization in the relevant field of research.</p> | <ol style="list-style-type: none"> <li>1. Organic Chemistry /Inorganic Chemistry/Analytical Chemistry/Industrial Chemistry/Physical Chemistry/Applied Chemistry</li> <li>2. Materials Chemistry</li> <li>3. Energy Sciences</li> <li>4. Electrochemistry</li> </ol> |
| 9  | Mathematics              | <p>B.Sc./ B.S. in Mathematics / Mathematics and Computing or B.Tech. in Mathematics and Computing.</p> <p>AND</p> <p>M.Sc./ M.S./ M.Tech. in Mathematics /Mathematics and Computing /Computational Mathematics or relevant discipline</p> <p>OR</p> <p>Five Years Integrated/Dual Degree Programme in Mathematics / Mathematics and Computing /Computational Mathematics or relevant discipline</p> <p>Ph.D.in relevant discipline.</p>                                                                      | <ul style="list-style-type: none"> <li>• Design and Analysis of algorithms</li> <li>• Machine Learning, Deep Learning</li> <li>• Parallel Computing</li> <li>• Data Management</li> </ul>                                                                           |
| 10 | Mathematics & Humanities | <p>Mathematics</p> <p>B.Sc./ B.S. in Mathematics / Mathematics and Computing or B.Tech. in Mathematics and Computing.</p>                                                                                                                                                                                                                                                                                                                                                                                    | <ul style="list-style-type: none"> <li>• Design and Analysis of algorithms</li> <li>• Machine Learning, Deep Learning</li> </ul>                                                                                                                                    |

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|    |                               | <p>AND</p> <p>M.Sc./ M.S./ M.Tech. in Mathematics /Mathematics and Computing /Computational Mathematics or relevant discipline</p> <p>OR</p> <p>Five Years Integrated/Dual Degree Programme in Mathematics / Mathematics and Computing /Computational Mathematics or relevant discipline</p> <p>Ph.D.in relevant discipline.</p> | <ul style="list-style-type: none"> <li>• Parallel Computing</li> <li>• Data Management</li> </ul>                                                                                                                                                                            |
|    |                               | <p>Management Bachelor's Degree in Any discipline</p> <p>M.B.A or an equivalent Master Degree in Management/relevant specialization</p> <p>Ph.D. in Management/ relevant specialization</p>                                                                                                                                      | <p>Business Analytics, Data sciences, Operations and Decision Science, Management Information Systems, Finance. Marketing, Innovation and Entrepreneurship</p>                                                                                                               |
| 11 | Humanities and Social Science | <p>B.A./B.Sc. or equivalent in Psychology/English</p> <p>M.A./M. Sc. or equivalent in Counselling Psychology/English</p> <p>Ph.D.in Counselling Psychology/English</p>                                                                                                                                                           | <p>World literature/ Linguistics/ English Language Teaching/ American Literature/ Translation Studies/ Critical Theory/ Counselling Psychology/ Gender Studies/ Indian English Fiction/ Postcolonial Fiction/ Communication Skills / Employability Skills/ Film Studies/</p> |