

## Annexure-I

**Degrees in the following relevant branches/specializations at B.E./B.Tech./ M.E./M.Tech./ and Ph.D. level for various departments are required from the applicants:**

| <b>S. No.</b> | <b>Department</b>              | <b>B.E./B.Tech Branch*</b>                                   | <b>M.E./ M.Tech/ M.Sc./MA Branch/ Specializations*</b>                                                                                                                                                                                                                                                                                                                                  | <b>Ph.D.</b>                                          | <b>Preferred Areas / Specializations</b>                                                                                       |
|---------------|--------------------------------|--------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
| 1.            | Aerospace Engg.                | Aeronautical/ Aerospace Engg.                                | Aeronautical/Aerospace/Aerodynamic Engg./Propulsion Engineering/Rocket Propulsion/Aerospace Propulsion Technology/Space Engineering and Rocketry/Astronomy & Space Engineering/Gas Turbine Technology/Turbo Machinery/Internal Combustion Engine and Turbo Machinery/Mechanical in Rotodynamics/Rotodynamic Machines/Avionics/Flight Mechanics/Aerospace Materials/ and allied branches | Aeronautical/ Aerospace/ Any Allied branch            | Avionics, Aircraft Structures, CFD, Aero materials, allied branch                                                              |
| 2.            | Civil Engineering              | Civil Engineering                                            | Civil Engineering                                                                                                                                                                                                                                                                                                                                                                       | Ph.D. Civil Engineering                               | Structural Engg./ Transportation Engg./ Environmental Engg./ Construction Management/ Remote Sensing/ Geotechnical Engineering |
| 3.            | Computer Science & Engineering | 1. Computer Science & Engineering<br>2. Computer Science and | 1. Computer Science & Engineering<br>2. Computer Science and                                                                                                                                                                                                                                                                                                                            | Specialization areas equivalent / related to Computer | Artificial Intelligence, Machine Learning, Soft Computing, Natural Language                                                    |

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|  |  | <p>Information Technology</p> <p>3. Information &amp; Communication Technology</p> <p>4. Computer Science &amp; Technology</p> <p>5. Computer Science &amp; Engineering (Artificial Intelligence)</p> <p>6. Computer Science &amp; Engineering (Machine Learning)</p> <p>7. Computer Science &amp; Engineering (Data Science)</p> <p>8. Mathematics &amp; Computing</p> <p>9. Computer Science Application</p> <p>10. Computer Science and Engineering (Cyber Security)</p> <p>11. Computer Science &amp; Engineering (Software Engineering)</p> <p>12. Electronics &amp; Computer Engg</p> <p>13. Electrical &amp; Computer Engg</p> <p>14. Or Any Other Equivalent related branch</p> | <p>Information Technology</p> <p>3. Information &amp; Communication Technology</p> <p>4. Computer Science &amp; Technology</p> <p>5. Computer Science &amp; Engineering (Artificial Intelligence)</p> <p>6. Computer Science &amp; Engineering (Machine Learning)</p> <p>7. Computer Science &amp; Engineering (Data Science)</p> <p>8. Mathematics &amp; Computing</p> <p>9. Computer Science Application</p> <p>10. Computer Science and Engineering (Cyber Security)</p> <p>11. Computer Science &amp; Engineering (Software Engineering)</p> <p>12. Electronics &amp; Computer Engg</p> <p>13. Electrical &amp; Computer Engg</p> <p>14. Or Any Other Equivalent related branch</p> | <p>Science &amp; Engineering, Data Science, Artificial Intelligence or any other equivalent and related area</p> | <p>Processing, Speech Technology, Bio-Informatics, Wireless Sensor Networks, Networks &amp; Security, Mobile &amp; Adhoc Networks, Deep Learning, Medical Imaging, IOT &amp; related areas, Software Engineering, Software Testing, Information retrieval, Prediction Algorithms, Cryptography, Data Analytics, Fault-Tolerant Distributed Computing, Explainable Artificial Intelligence and Blockchain Technology, IOT, SDN, Wireless Communication, Network Security, AI &amp; ML, VANET, Web Crawling, Dark Web and Deep Web, Latest Areas Related to Covid 19, Automata Theory or any other equivalent and related area</p> |
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| 4. | Electrical Engg.  | Electrical Engineering/<br>Electrical and Electronics Engineering                                                                                                                                                | Electrical/ Power System (Engineering) / Control System (Engineering) /Power Electronics/ Electric Machines/ Electric Drives/ Automation/ Instrumentation/ Energy System/ Renewable/ Power Apparatus/ Signal Processing OR at least any one of the above specializations in combination with other specializations.                                                                                                                                                                                                                                                                                                                                        | Ph.D.                                              | I. Control Engineering<br>II. Power Electronics<br>III. Power System<br>IV. Instrumentation<br>V. Electrical Machine<br>VI. Electric Drives<br>VII. Energy System<br>VIII. Automation                                                                                                                                                                                                                                                                                                                                                                                    |
| 5. | Electronics Engg. | <ul style="list-style-type: none"> <li>• Electronics and Electrical Communication Engg.</li> <li>• Electronics &amp; Communication Engg.</li> <li>• Electronics &amp; Tele-communication Engineering.</li> </ul> | <ul style="list-style-type: none"> <li>• Electronics Engg.</li> <li>• Electronics Product Design &amp; Technology</li> <li>• VLSI Design</li> <li>• Communication Engg.</li> <li>• Electronics &amp; Communication Engg.</li> <li>• Electronics &amp; telecommunication Engg.</li> <li>• Electronics (VLSI Design)</li> <li>• Embedded System</li> <li>• Microelectronics</li> <li>• Microelectronics System Design</li> <li>• Microwave Engg.</li> <li>• Optical Communication</li> <li>• Nanoelectronics</li> <li>• Electronics &amp; Electrical Communication Engg.</li> <li>• Digital Signal Processing</li> <li>• Digital Image Processing</li> </ul> | -                                                  | <ul style="list-style-type: none"> <li>• Electronic Engg.</li> <li>• Electronics &amp; Communication Engg.</li> <li>• Electronics &amp; Electrical Communication Engineering</li> <li>• Electrical &amp; Electronics Engineering</li> <li>• Photonics</li> <li>• Microelectronics</li> <li>• Communication Engg.</li> <li>• Embedded System</li> <li>• VLSI</li> <li>• Optical Communication</li> <li>• Nanoelectronics</li> <li>• Digital Signal Processing</li> <li>• Microwave Engg.</li> <li>• Wireless Communication</li> <li>• Digital Image Processing</li> </ul> |
| 6. | Mechanical Engg.  | Mechanical Engg.                                                                                                                                                                                                 | <ul style="list-style-type: none"> <li>• Thermal</li> <li>• Machine Design</li> <li>• Manufacturing</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Ph.D. in a relevant area of Mechanical Engineering | Thermal/ Machine Design/<br>Manufacturing/<br>Production/<br>Industrial/ Robotics/                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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|    |                                 |                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                       |                                | Automation/ CAD-CAM/ Materials/ CFD/ Process Optimization/ Physical Metallurgy/ Precision Engineering/ Modelling and Computational techniques relevant to Mechanical Engineering                                                           |
| 7. | Metallurgical & Materials Engg. | Metallurgy,<br>Metallurgical & Materials,<br>Materials & Metallurgical,<br>(Engineering/ Technology)<br><br>Materials Science & Metallurgy,<br>Materials Science & Engineering,<br>Metallurgical Engineering and Materials Science<br><br>Or<br>B.Tech. Mechanical Engineering | Metallurgical Engineering,<br>Materials Science & Engineering,<br>Materials Science & Metallurgy,<br>Metallurgical & Materials Engineering,<br>Materials & Metallurgical Engineering, Foundry-Forge Technology, Industrial Materials & Metallurgy, Industrial Metallurgy, Process Metallurgy, Materials Engineering, Material Science | Ph.D.                          | Materials/ Metallurgy                                                                                                                                                                                                                      |
| 8. | Bachelor of Design (B.Des.)     | Bachelor of Design (B.Des.)/<br>Bachelor of Technology (B.Tech/BE)<br>Bachelor of Architecture (B.Arch.)<br><br>Bachelor of Fine Arts (BFA) (4Year Course)<br>Bachelor of Arts (4 Year Course)                                                                                 | Master of Design (M. Des)/ Master of Technology (M Tech) in Design or related subject<br><br>Master of Fine Arts (MFA)/ Master of Design (M. Des)                                                                                                                                                                                     | Design or with related subject | Product Design, Industrial Design, Animation Film Design, Artificial Intelligence in Design, Interaction Design, Information Design, Digital Game Design, Exhibition Design, Film & Video Communication, Graphic Design, New Media Design, |

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|----|------------------------------------|----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    |                                    |                                        |                                                                                                                                                |                                        | Vehicle Design, Filmmaking, Cinematography, Editing, Sound Design, Music Production, VFX, Visual Communication, Typography and Publication Design, Digital Media, Augmented Reality, Virtual Reality, Usability, Human Centered Design, Information Architecture, Basic Design, Advertising and Branding/Strategic Design |
| 9  | Physics                            | -                                      | M.Sc in Physics/ Applied Physics                                                                                                               | Ph.D. Physics                          | <ul style="list-style-type: none"> <li>• Experimental Condensed Matter Physics</li> <li>• Theoretical Condensed Matter Physics</li> <li>• Quantum Physics</li> <li>• Materials Science</li> </ul>                                                                                                                         |
| 10 | Mathematics                        | -                                      | M.A/M.Sc. in Mathematics/Applied Mathematics                                                                                                   | Ph.D. Mathematics/ Applied Mathematics | All Specializations of Mathematics/ Applied Mathematics                                                                                                                                                                                                                                                                   |
| 11 | Centre for Management & Humanities | B.Com/ BBA/B.Tech Management/ Commerce | Master of Business Management/ Master of Business Administration (MBA)/ Post Graduate Diploma in Management (PGDM)/ Master of Commerce (M.Com) | Ph.D.                                  | Finance/General Management/ Entrepreneurship.                                                                                                                                                                                                                                                                             |
|    |                                    | B.A Humanities                         | MA. English                                                                                                                                    | Ph.D.                                  | English Language Teaching (ELT)/ English Literature                                                                                                                                                                                                                                                                       |

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| * For exceptional candidates, equivalence of branch/ specialization may be considered by the Selection Committee. |  |  |           |   |   |