

# QIP

## QUALITY IMPROVEMENT PROGRAMME

Admission to Master Degree Programme for the academic year 2020-2021  
(for the Full Time/Permanent Faculty of AICTE approved Degree Level Engineering Institutions)

### INFORMATION BROCHURE (Master Degree Programme)

*Sponsored by*



**All India Council for Technical Education**  
(A Statutory Body of Government of India)

*Admission coordinated by*



**Principal Coordinator QIP**  
**Indian Institute of Technology Guwahati**  
Guwahati-781039, Assam  
[www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html)



| <b>DATES TO REMEMBER</b>   |  |
|--|--|
| Opening of online Application Portal                                       | 20 September, 2019 (Friday)            |
| Closing of online Application Portal                                       | 18 October, 2019 (Friday)<br>17.00 hrs |
| Last date for receipt of duly forwarded Applications along with enclosures | 31 October, 2019 (Thursday)            |



**Both online and hardcopy of the application are required for processing.  
Single version of the application will not be considered.**

## ***Dear Prospective QIP Scholar***

Your interest in the Quality Improvement Programme (QIP) sponsored by All India Council for Technical Education (AICTE) is appreciated. The principle objective of this programme is to enhance and upgrade the expertise and capabilities of faculty members of the AICTE approved degree-level engineering institutions. The programme, launched by the Government of India in the year 1970, is now being implemented and monitored by the National QIP Coordination Committee (NQCC) funded through AICTE.

There are three main activities under QIP scheme for the faculty of degree-level engineering institutions:

- Providing opportunities to teachers of the degree-level engineering institutions to improve their qualifications by offering admissions to M.Tech. and Ph.D programme.
- Organizing Short Term Courses at the QIP Centres for serving teachers in various emerging areas of technology and research.
- Curriculum Development Cell activities which helps to improve the classroom teaching and learning.

These activities are undertaken by nine major QIP centres at IITs and IISc. Admission to M. Tech. and Ph.D. programme is also offered (in selected areas) in institutions recognized as Minor QIP centres. A large number of teachers from engineering institutions from all over the country have pursued M.Tech. and Ph.D. programme under this scheme. These activities are aimed at improving the standard and quality of technical education through improvement in the qualification of the faculty members of the various engineering institutions.

In the past, a Curriculum Development Cell was also set up at major QIP Centres for improving the effectiveness of technical education in the country. Its activities included curriculum development and revision or preparation of monographs, textbooks, teachers' manuals, teaching aids and other resource materials, examination reforms, organizing inter institutional programs, seminars, workshops and panel discussions, development of educational technology, creation of methodologies for formal and informal trainings, technical education of the handicaps, etc. A number of short term courses have also been organized by major QIP centres for the benefit of the faculty members of Engineering Institutions across the country.

The following QIP websites will give you necessary information about the programme as well as about the requirements and procedure to apply for admission in M.Tech./Ph.D. programme: [www.aicte-India.org](http://www.aicte-India.org), <http://cce.iisc.ernet.in>, [www.qip.iitb.ac.in](http://www.qip.iitb.ac.in), <http://cepqip.iitd.ac.in>, [www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html), [www.iitk.ac.in/qip](http://www.iitk.ac.in/qip), [www.cep.iitkgp.ac.in/cep](http://www.cep.iitkgp.ac.in/cep), [www.iitm.ac.in/qip](http://www.iitm.ac.in/qip), [www.iitr.ac.in/qip](http://www.iitr.ac.in/qip), [www.iitbhu.ac.in/qip](http://www.iitbhu.ac.in/qip). The details of the disciplines and specializations available at various centres are listed on the website and are also available in the admission brochure to enable you to make appropriate choices. You can navigate through the links on the left hand side of the main web page for admission and can download the admission brochure.

Access to the online portal for submission of application opens on **September 20, 2019 (Friday)**. The last date for the online submission of the application is **October 18, 2019 (Friday)**. Please note that the last date for submission of the hard copy of the application is **October 31, 2019 (Thursday)**. Submission of online as well as hard copy of the application is mandatory. The hard copy should be sent to: **The Principal Coordinator QIP, Head, Centre for Educational Technology, IIT Guwahati, Guwahati-781039, Assam.**

The procedure of admission under QIP involves the following steps:

- Scrutiny of all applications in the office of the Principal Coordinator QIP.
- Shortlisting of candidates by the QIP centres for interview and dispatch of call letters to the selected candidates.
- Recommendations by the QIP centres to the National QIP Coordination Committee.
- Final selection by the National QIP Coordination Committee, and
- Offer of Admission by the Institution where the final selection has been recommended by the NQCC.

The schedule of interview at various QIP Centres is given in the brochure, so that you can plan your travel for attending/appearing at the interview at places of your choice. For further information about the QIP, the application form or any associated item, you may contact the Principal Coordinator QIP or any of the Coordinators of the QIP Centres listed in the QIP websites and the brochure.

For further information about a particular institution or a particular department therein, you may directly write to the Head of concerned department or the QIP Coordinator of the institution.

The website [www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html) will be updated periodically at each of the timelines. Please visit this website periodically to check for updates in the application and selection process.

Wish you all the best!

**Prof. Hemant B Kaushik**  
**Principal Coordinator QIP**  
**Head, Centre for Educational Technology**  
**IIT Guwahati, Guwahati-781039, Assam**

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| <b>3</b>       | Indian Institute of Technology Delhi, New Delhi (New Delhi)                                | <b>22-24</b>    |
| <b>4</b>       | Indian Institute of Technology Guwahati, Guwahati (Assam)                                  | <b>25</b>       |
| <b>5</b>       | Indian Institute of Technology Kanpur, Kanpur (Uttar Pradesh)                              | <b>26-27</b>    |
| <b>6</b>       | Indian Institute of Technology Kharagpur, Kharagpur (West Bengal)                          | <b>28-30</b>    |
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| <b>8</b>       | Indian Institute of Technology Roorkee, Roorkee (Uttarakhand)                              | <b>33-35</b>    |
| <b>9</b>       | Indian Institute of Technology (BHU), Varanasi (Uttar Pradesh)                             | <b>36</b>       |
| <b>10</b>      | Anna University, Chennai (Tamil Nadu)  | <b>37</b>       |
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| <b>12</b>      | BMS College of Engineering, Bangalore (Karnataka)  | <b>38</b>       |
| <b>13</b>      | Indian Institute of Technology (Indian School of Mines), Dhanbad (Jharkhand)               | <b>38</b>       |
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## I. GENERAL INFORMATION

1. The major QIP Centres at IITs and IISc offer admission to Master degree programme in several disciplines. In addition, institutions recognized as the minor QIP Centres also offer admission to Master degree programme under QIP in some specific departments.
2. The duration of the Master Degree Programme is 24 months.
3. Candidate should visit the website [www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html) for submitting on-line application and to check for updated information related to receipt of completed application, list of candidates called for interview, selected list of candidates and all other information pertaining to QIP admission.
4. Candidate should read the **Information Brochure** thoroughly before i) filling **in the online application**, and ii) sending the final print-out of application (**duly forwarded by the Head of Institution**).
5. Candidates must first submit their application form on-line through [www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html) . Applications without on-line submission will not be considered. Candidate should make sure that proper Institute / Discipline codes are entered and all relevant details are duly filled in the respective fields. Access to the link for online submission of application opens on **September 20, 2019 (Friday)**. Last date for online submission of application is **October 18, 2019 (Friday), 17:00 hrs**. The last date for receipt of duly forwarded hard copy of the application along with all the relevant enclosures is **October 31, 2019 (Thursday)**.
6. After filling the application online, candidates should send the **relevant number** of prints of the **online** completed form, duly forwarded by the Principal/Head of the Institution, as instructed along with all enclosures and receipt of payment for Rs.1000/- (Rs.500/- for SC/ST/PD/Female Candidates) to **The Principal Coordinator QIP, Head, Centre for Educational Technology, IIT Guwahati, Guwahati-781039, Assam**.
7. The candidate and the Principal/Head of the Institution forwarding the application should ensure that the application is to be sent to **The Principal Coordinator QIP, Head, Centre for Educational Technology, IIT Guwahati, Guwahati-781039, Assam**, so as to reach **on or before October 31, 2019 (Thursday)**. **Applications received after this date will not be considered**. Acknowledgement of the receipt of the application will be sent by email.
8. Information given by the candidate in the application for all the options chosen, must be uniform and correct. In case of any difference observed in the data related to experience, marks, designation, addresses, age, etc., **his/her candidature is liable to be cancelled at any stage even after the selection/ admission**.
9. **Application submitted without the full support and recommendation of the candidate by the appropriate authorities (Head/Principal of the Institution) with seal, and/or without the required enclosures will automatically be rejected. Please note that no corrections/ additions/deletions to the recommendation format is permitted. Changes to the format of the forwarding/ recommendation note will not be accepted.**
10. The application number allotted during **online registration** should be quoted in all correspondences, and **such correspondences should be routed through the Principal/ Head of the candidate's parent institution**. If the application number changes due to some unavoidable circumstances, this change will be intimated through email to the candidate. The changed application number may then be quoted in all cases.
11. Short-listed candidates will receive Interview Call/ Admission letter from the respective QIP Coordinator of the Institute, where they have applied to seek admission. **The Principal Coordinator QIP will not send any Call letter to the candidates directly**.
12. **Interview schedule is final and cannot be altered /changed under any circumstances**. Candidates are required to appear for interview at the Institute(s), where he/she would like to seek admission. Candidates may plan their travel accordingly.
13. Concessions, relaxation, and reservations for candidates belonging to SC/ST/OBC/Physically Disabled/Female Candidates are as per rules. The reservation rules of GOI will be applied to overall admissions by the NQCC. The selection of a candidate is considered only after the recommendation of the major/minor QIP center.

## II. INSTITUTIONS OFFERING MASTER DEGREE PROGRAMME UNDER QIP AND THEIR CODES

| Sl. No.  | Name of the Institute/University   | Code           |
|--|--|----------------|
| <b>Institutions that are Major QIP Centres:</b> The following institutions have QIP Centres which offer admission to Master degree (2- years).   |  |                |
| 1.   | Indian Institute of Science, Bangalore – 560 012   | <b>BG</b>      |
| 2.   | Indian Institute of Technology Bombay, Mumbai – 400 076  | <b>BM</b>      |
| 3.   | Indian Institute of Technology Delhi, New Delhi – 110 016  | <b>DL</b>      |
| 4.   | Indian Institute of Technology Guwahati, Guwahati – 781 039  | <b>GW</b>      |
| 5.   | Indian Institute of Technology Kanpur, Kanpur – 208 016  | <b>KN</b>      |
| 6.   | Indian Institute of Technology Kharagpur, Kharagpur – 721 302  | <b>K</b>       |
| 7.   | Indian Institute of Technology Madras, Chennai – 600 036   | <b>MD</b>      |
| 8.   | Indian Institute of Technology Roorkee,, Roorkee – 247 667   | <b>RR</b>      |
| 9.   | Indian Institute of Technology (BHU) Varanasi-221 005  | <b>VN</b>      |
| <b>Other Institutions that are Minor QIP Centres:</b> The following recognized institutions also offer admission to Master Degree (2 years) Programme under QIP in some specific departments as given below: |  |                |
| 10.  | Anna University, AC Technology Campus, Chennai – 600 025<br>(i) Chemical Engineering (ii) Leather Technology (iii) Ceramic Technology (iv) Applied Science and Technology (v) Textile Technology (vi) Bio Technology (vii) Rubber & Plastic Technology   | <b>AU</b>      |
|  | Anna University, College of Engineering Guindy, Chennai – 600 025<br>(i) Civil Engineering (ii) Electrical Engineering (iii) Information and Communication Engineering (iv) Mechanical Engineering   |                |
|  | Anna University, Madras Institute of Technology, Chennai – 600 044<br>(i) Aerospace Engineering (ii) Automobile Engineering (iii) Electronics Engineering (iv) Instrumentation Engineering (v) Production Technology   |                |
| 11.  | Indian Institute of Engineering Science and Technology, Shibpur – 711 103<br>(i) Civil Engineering (ii) Electrical Engineering (iii) Mechanical Engineering (iv) Mining Engineering (v) Aerospace Engineering and Applied Mechanics (vi) Information Technology (vii) Metallurgy & Materials Engineering | <b>BE</b>      |
| 12.  | B.M.S. College of Engineering, Bangalore – 560 019<br>(i) Mechanical Engineering   | <b>BS</b>      |
| 13.  | Indian Institute of Technology (Indian School of Mines), Dhanbad – 826 004<br>(i) Fuel & Mineral Engineering (ii) Mining Engineering   | <b>IS</b>      |
| 14.  | Jadavpur University, Kolkata – 700 032<br>(i) Electrical Engineering (ii) Electronics & Telecommunication Engineering (iii) Mechanical Engineering (iv) Production Engineering   | <b>JU</b>      |
| 15.  | Malnad College of Engineering, Hassan – 573 201<br>(i) Civil Engineering   | <b>M<br/>L</b> |
| 16.  | Motilal Nehru National Institute of Technology, Allahabad – 211 004<br>(i) Applied Mechanics (ii) Civil Engineering (iii) Computer Science and Engineering (iv) Electrical Engineering (v) Electronics Engineering (vi) Mechanical Engineering (vii) GIS Cell  | <b>MN</b>      |
| 17.  | National Institute of Industrial Engineering, Mumbai – 400 087<br>Industrial Engineering   | <b>NI</b>      |

|     |  |           |
|-----|--|-----------|
| 18. | National Institute of Technology, Calicut - 673 601<br>(i) Civil Engineering (ii) Computer Science & Engineering (iii) Electrical Engineering<br>(iv) Electronics & Communication Engineering (v) Mechanical Engineering   | <b>CL</b> |
| 19. | National Institute of Technology Karnataka, Surathkal – 575 025<br>(i) Applied Mechanics & Hydraulics (ii) Chemical Engineering (iii) Civil Engineering (iv) Computer Engineering (v) Electrical & Electronics Engineering (vi) Electronics & Communication Engineering<br>(vii) Mathematical & Computational Science (viii) Mechanical Engineering (xi) Metallurgical & Materials Engineering | <b>SK</b> |
| 20. | National Institute of Technology, Rourkela – 769 008<br>(i) Ceramic Engineering (ii) Chemical Engineering (iii) Civil Engineering<br>(iv) Computer Science and Engineering (v) Electrical Engineering<br>(vi) Electronics and Communication Engineering (vii) Mechanical Engineering   | <b>RK</b> |
| 21  | National Institute of Technology, Tiruchirappalli – 620 025<br>(i) Civil Engineering (ii) Computer Science & Engineering<br>(iii) Electrical and Electronics Engineering (iv) Mechanical Engineering<br>(v) Metallurgical Engineering (vi) Production Engineering  | <b>TR</b> |
| 22. | National Institute of Technology, Warangal – 506 004<br>(i) Civil Engineering (ii) Electronics & Communication Engineering (iii) Electrical Engineering<br>(iv) Mechanical Engineering   | <b>WR</b> |
| 23. | PSG College of Technology, Coimbatore – 641 004<br>(i) Computer Science & Engineering (ii) Electrical & Electronics Engineering<br>(iii) Mechanical Engineering (iv) Production Engineering (v) Textile Technology   | <b>PS</b> |
| 24. | Shri G. S. Institute of Technology and Science, Indore – 452 003<br>(i) Electrical Engineering   | <b>GS</b> |
| 25. | JSS Science and Technology University (formerly Sri Jayachamarajendra College of Engineering),<br>Mysore – 570 006<br>(i) Civil Engineering (ii) Electronic and Communication (iii) Instrumentation Technology<br>(iv) Mechanical Engineering  | <b>SJ</b> |
| 26. | University Visveswaraya College of Engineering, Bengaluru – 560 056<br>(i) Civil Engineering   | <b>UV</b> |
| 27. | Visvesvaraya National Institute of Technology, Nagpur – 440 011<br>(i) Civil Engineering (ii) Electrical Engineering   | <b>VR</b> |

### III. CODES FOR DEPARTMENTS OFFERING MASTER DEGREE PROGRAMME AT VARIOUS INSTITUTIONS

| Department/Centre                                       | Code | Institution(s) Offering Master Degree Programme   |
|---|------|---|
| Advance Technology Development Centre                   | AT   | KH  |
| Applied Science and Technology                          | AT   | AU  |
| Aerospace Engineering                                   | AE   | BG, BM*, KH, KN, MD, AU   |
| Aerospace Engineering and Applied Mechanics             | AE   | BE  |
| Agriculture and Food Engineering                        | AG   | KH*   |
| Hydro and Renewable Energy                              | HR   | RR*   |
| Applied Mechanics                                       | AM   | DL, MD*, MN   |
| Applied Mechanics Hydraulics                            | AM   | SK*   |
| Architecture and Planning                               | AR   | RR*   |
| Architecture and Regional Planning                      | AR   | KH  |
| Automobile Engineering                                  | AU   | AU  |
| Biomedical Engineering                                  | BM   | VN, DL  |
| Biochemical Engineering                                 | BC   | VN  |
| Bio Sciences & Bio Engineering                          | BM   | BM  |
| Biotechnology   | BT   | KH, RR, AU  |
| Energy Studies (Centre)                                 | EN   | DL  |
| Material Science & Engineering (Centre)                 | PS   | DL*   |
| Centre for Atmospheric and Oceanic Science              | AS   | BG  |
| Centre of Studies in Resources Engineering              | SR   | BM  |
| Centre of Educational Technology                        | ET   | KH  |
| Centre for Oceans, Rivers, Atmosphere and Land Sciences | EV   | KH  |
| Center for Product Design & Manufacturing               | PD   | BG  |
| Chemical Engineering                                    | CH   | AU, BG, BM, DL, GW*, KH, KN, MD, RK, RR, SK*, VN  |
| Ceramic Engineering                                     | CM   | RK, VN  |
| Ceramic Technology                                      | CM   | AU  |
| Civil Engineering                                       | CE   | AU, BE, BG*, BM*, CL*, DL*, GW*, KH*, KN*, MD*, ML, MN, RK*, RR*, SJ, SK*, TR*, UV, VR, WR*, VN |
| Computational & Data Science                            | CD   | BG  |
| Computer Engineering                                    | CS   | SK*   |
| Computer Science & Automation                           | CS   | BG  |
| Computer Science & Engineering                          | CS   | BM, DL, GW, KH, KN, MD, MN, PS, RK*, TR, RR, CL*  |
| Cryogenic Engineering Centre                            | CR   | KH  |
| Chemistry   | CY   | RR  |
| Disaster Mitigation & Management                        | DM   | RR  |
| Earthquake Engineering                                  | EQ   | RR*   |
| Electrical & Electronics Engineering                    | EE   | PS*, SK, TR   |
| Electrical Communication Engineering                    | EC   | BG  |
| Electrical Engineering                                  | EE   | AU, BE, BG, BM*, CL*, DL, GS, JU*, KH*, KN*, MD*, MN, RK, RR*, VR, WR, VN*                      |
| Electronics & Electrical Engineering                    | EE   | GW*   |



| <b>Department/Centre</b>  | <b>Code</b> | <b>Institution(s) Offering Master Degree Programme</b>                                 |
|---|-------------|--|
| Electronics and Communication                                     | IL          | SJ   |
| Electronics & Communication Engineering                           | EC          | RK*, SK*, WR*, CL*, RR*  |
| Electronics & Telecommunication Engineering                       | EC          | JU*  |
| Electronics Systems Engineering                                   | ED          | BG   |
| Electronics & Electrical Communication Engineering                | EC          | KH*  |
| Electronics Engineering   | EC          | AU, MN, VN   |
| Energy Science and Engineering                                    | EN          | BM, KH   |
| Environmental Science & Engineering                               | EV          | BM   |
| Fuel and Mineral Engineering                                      | FM          | IS   |
| Earth Sciences  | ES          | BM*  |
| Center for Earth Sciences   | ES          | BG   |
| GIS Cell  | GI          | MN   |
| Humanities and Social Sciences                                    | HS          | BM   |
| Hydrology   | HY          | RR   |
| Information Technology  | IT          | BE   |
| Industrial and Management Engineering                             | IM          | KN   |
| Industrial Engineering & Operations Research                      | IO          | BM   |
| Industrial Engineering  | IE          | NI   |
| Industrial & System Engineering                                   | IM          | KH   |
| Industrial Tribology Machine Dynamics and Maintenance Engineering | TR          | DL   |
| Industrial Design Center  | ID          | BM   |
| Information and Communication Engineering                         | IC          | AU   |
| Instrumentation & Applied Physics                                 | IN          | BG   |
| Instrumentation Technology  | IN          | SJ   |
| Instrumentation Engineering                                       | IN          | AU   |
| Leather Technology  | LT          | AU   |
| Material Science  | MS          | KH, KN   |
| Materials Science & Engineering                                   | MT          | KN   |
| Mathematical and Computational Sciences                           | MC          | SK   |
| Mathematics   | MA          | KH, MD   |
| Mechanical and Industrial Engineering                             | ME          | RR   |
| Mechanical Engineering  | ME          | BG, BM*, DL, GW, VN*, KH, MD, AU, BS, BE, JU*, MN, CL*, RK*, TR*, WR, PS*, SJ, KN, SK* |
| Medical Science & Technology                                      | MB          | KH   |
| Metallurgical and Materials Engineering                           | MT          | KH, SK*, BE  |
| Metallurgical and Materials Engineering                           | MM          | MD   |

| <b>Department/Centre</b>                           | <b>Code</b> | <b>Institution(s) Offering Master Degree Programme</b> |
|--|-------------|--|
| Metallurgical Engineering & Materials Science      | MM          | <b>BM*</b>   |
| Metallurgical Engineering                          | MT          | <b>TR*, VN</b>   |
| Metallurgical Engineering and Material Engineering | MT          | <b>RR</b>  |
| Materials Engineering                              | MT          | <b>BG</b>  |
| Material Science & Technology                      | MS          | <b>VN</b>  |
| Microelectronic System                             | ML          | <b>BG</b>  |
| Mining Engineering                                 | MI          | <b>BE, IS, VN</b>                                      |
| Nuclear Engineering and Technology                 | NE          | <b>KN</b>  |
| Nanotechnology                                     | NT          | <b>RR</b>  |
| Ocean Engineering                                  | OE          | <b>MD*</b>   |
| Ocean Engineering and Naval Architecture           | OE          | <b>KH</b>  |
| Paper Technology                                   | PP          | <b>RR*</b>   |
| Physics  | PH          | <b>DL, MD, RR*, KH</b>                                 |
| Photonic Science & Engineering                     | LS          | <b>KN</b>  |
| Production Engineering                             | PE          | <b>JU*, PS*, TR*</b>                                   |
| Production Technology                              | PT          | <b>AU</b>  |
| Infrastructure Design & Management                 | ID          | <b>KH</b>  |
| Reliability Engineering (Centre)                   | RE          | <b>KH</b>  |
| Rubber Technology                                  | RT          | <b>KH</b>  |
| Rubber & Plastic Technology                        | RT          | <b>AU</b>  |
| Signal Processing                                  | SP          | <b>BG</b>  |
| Systems and Control Engineering                    | SC          | <b>BM</b>  |
| Systems Engineering and Automation                 | SA          | <b>BG</b>  |
| Textile Technology                                 | TX          | <b>DL, PS, AU</b>                                      |
| Centre for Transportation Systems (CTRANS)         | TS          | <b>RR</b>  |
| School of Water Resources                          | WR          | <b>KH</b>  |
| Water Resources Development & Management           | WR          | <b>RR*</b>   |
| Design   | ID          | <b>DL</b>  |
| Mining Engineering                                 | MN          | <b>KH</b>  |

\* Specializations have to be indicated while opting for the particular department. Code for the specializations is given along with the details corresponding to the particular institution (Depts. & Field of Specialization).

#### IV. ELIGIBILITY CRITERIA

1. **Only candidates (such as Lecturers, Workshop Superintendent, Readers, Assistant Professors, Associate Professors and Professors) with a minimum of two-years teaching experience as full-time regular/permanent teachers of AICTE approved Degree level Engineering Institutions, as on September 30, 2019 (Monday) are eligible to apply.** Admissions to Master degree programme under QIP are open only to candidates with a basic degree in Engineering or Technology or Architecture or such other equivalent qualification.
2. **Please note that according to the AICTE notification F.No:37-3/Legal/2010 dated 22 January, 2010 and subsequent publication in Gazette of India dated 5<sup>th</sup> March, 2010, the appointment of a permanent (regular) faculty as Assistant Professor at degree level, requires a minimum qualification of Master's degree in the relevant branch. Thus, applications of those candidates, who have been appointed to permanent teaching position after 2010 without a Master's degree, will be declined.**
3. The candidate should satisfy the minimum eligibility criteria prescribed by the individual Department (and/or the Institution) to which admission is sought.
4. Computer Programmers, Systems Programmers, Workshop Staffs, Guest Lecturers, Visiting Lecturers, Teaching Assistants, Ad-hoc/Contract or Part-time Teachers, Technical Assistants, Research Engineers, Scientific Officers and other such categories of staff **are not eligible.**
5. Teachers of the Major QIP centers **are not eligible.**
6. Teachers of the Minor QIP centres **are eligible to apply to Major QIP Centres.**
7. Teachers of the minor QIP centres are permitted to apply for a field of specialization available in another minor QIP centres, which is not available in their parent department on the specific recommendations of the Department's and Institute's Head stating that a faculty in the particular specialization is required for their Institution.

#### V. SCHOLARSHIP AND CONTINGENCY GRANT

The candidates admitted for the Master degree programme under QIP will receive a sum of Rs.4,000/- per month as living expenditure allowance and a contingency grant of Rs.5,000/- per annum for two years.

#### VI. CONDITIONS FOR ADMISSION

1. Admission is possible only to the **Institutions** and the **Departments** listed in the Information brochure.
2. **The final admission of the candidate will be subject to the clearance and approval by the Admission Wing (Section) of the concerned institution** as per its rules and regulations in force at the time of admission. **Applicant's candidature is liable to be cancelled at any stage even after the selection/ admission.**
3. The candidate, if selected, should be relieved from the parent institution to join the programme in time for the session to which he/she is admitted.
4. The candidate joining the Master degree programme under QIP on deputation would be entitled to receive his/her salary and allowances, which must be paid by the parent institution sponsoring him/her.
5. **Conditional recommendation by the Principal/Head of the Institution will not be accepted.**
6. The Principal/Head of the Institution of a candidate who is selected for admission should ensure that the **sponsorship certificate** is produced by the candidate at the time he/she joins the course.
7. If a QIP scholar **discontinues** the Master degree programme, **the scholar has to refund the scholarship and contingency received to the AICTE through the QIP Centre, and the parent institution may seek refund of the salary and allowances paid to him for the period he/she attended the programme.**

#### VII. INSTRUCTIONS FOR COMPLETING THE ONLINE APPLICATION

##### General Instructions

1. The website link for application is: [www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html). Click on **"QIP Admission 2020-21"**.
2. The candidate should first register by clicking "New Registration". An email confirming the registration will be sent by assigning an Application Number and a Password. The application number and the password are required for subsequent operations. Hence the candidate should remember them or keep them at a safe place.
3. Candidate can start filling up the on-line application by logging in through "View/Edit Application".
4. On-line application can be completed in one or more sessions by revisiting the website using the assigned application number and password.
5. The candidate should enter all required information correctly in all fields of the on-line application.

6. After filling the fields, the candidate can save the information in between by using the **SAVE** button. The candidate can edit data in any field till the final submission and printout is taken. The last date for on-line submission of application is **October 18, 2019 (Friday), 17:00 hrs.**

#### Personal Information

7. After completing the Name, Designation, Department and Address fields (using the pull-down menu) enter Date of Birth; Gender as 'Male' or 'Female'; the category by 'General', 'SC', 'ST', or 'OBC'; put 'Yes' if you belong to Physically Disabled Category and "No" if you do not; Married as 'Yes' if you are married and 'No' if you are single.

#### Educational Qualifications and Academic Data

8. During the process of entering the application details, additional sub-links are provided in appropriate places. For example, while entering the overall performance of the candidate under "Educational Qualifications", there will be a link through which the candidate can furnish the semester wise / year wise particulars.
9. For filling academic data and additional qualification, if the absolute marks are awarded, then fill, e.g. 650/800 where the total marks obtained is 650 out of a total of 800. If the Grade Point Average (GPA) is awarded, fill, e.g. 6.7/10 where 6.7 is GPA obtained on a scale of 10. If the candidate has failed in any subject during any semester examination and cleared that subject in a later semester, the marks obtained in that subject should be added back to the semester in which it was supposed to have been cleared and then the total marks is to be calculated. **Candidate should take the marks of all the semesters for Calculating the overall percentage or CGPA (irrespective of the methodology adopted by the university/college in awarding final class/division).**
10. During the entry of details like detailed semester wise / year wise information, detailed teaching experience, etc., the candidate has to enter the details for which documents of proof are to be attached.

#### Institute and Department Preferences

11. A candidate can apply to a maximum of three institutions and a maximum of two departments in each of the chosen Institutes (i.e., maximum of total six options only).
12. Select the Institution by using the pull-down-menu as per the order of your preference. Then enter the programme code desired as per preferred choices with valid code.
13. Appropriate list of 'valid codes' can be viewed using links provided. The code contains 6 characters; the first 2 alphabets identify the Institute, the next 2 alphabets identify the department within the Institute and the last 2 digits identify the field of specialization. For example, a code 'RRME01' represents the Specialization of *Machine Design Engineering* in the *Department of Mechanical and Industrial Engineering* at *IIT Roorkee*.

#### Preview of Application

14. Once the complete details about the candidate are entered and saved, the online application can be printed. To preview the completed application, the candidate can print a draft copy of the application. The candidate should check the completeness and correctness of the information; if needed, corrections can also be made before the final submission.

#### Final Confirmation and Printouts

15. After finalizing the contents of the application, the candidate should invoke the FINAL version of the application. Click here for printing the FINAL version of the application. **Once the FINAL version option is chosen, the candidate will not be allowed to modify the contents of the application. The FINAL version should be printed only on A4 sheet with the print orientation as 'portrait', and margins as 20 mm (left, right, top and bottom).** The **print report** contains multiple copies of the application. The first copy corresponds to the 'copy for **The Principal Coordinator QIP**, and one copy each for the preference code **related to the number of institutions and departments, a candidate proposes to apply to**. Please note that you are required to send all the copies to: **The Principal Coordinator QIP, Head, Centre for Educational Technology, IIT Guwahati, Guwahati-781039, Assam.**

16. The following table indicates the number of printouts to be taken and the number of sets of enclosures required as **related to the number of institutions and departments a candidate proposes to apply.**

| No. of Institutions chosen | Total No. of Departments (streams or specializations) chosen | No. of applications to be printed and No. of sets of enclosures required |
|----------------------------|--|--|
| 1                          | 1  | 2  |
| 1                          | 2  | 3  |
| 2                          | 2  | 3  |
| 2                          | 3  | 4  |
| 2                          | 4  | 5  |
| 3                          | 3  | 4  |
| 3                          | 4  | 5  |
| 3                          | 5  | 6  |
| 3                          | 6  | 7  |

17. In each copy, the candidate should affix his/her recent stamp-size photograph in the space provided.
18. The candidate should thoroughly verify the contents of the printed documents and sign at the appropriate places.
19. In the “**Forwarding Note**” of the Application Form, the space provided for the Name of the Candidate and Teaching Experience must be duly filled in and **signed by the Principal / Head of the Institution along with the Office Seal.**
20. Applications submitted without signatures of the candidate and the appropriate authorities with seal, and/or without the required enclosures will **automatically be deemed invalid.**

### VIII. APPLICATION FEE

Online Payment receipt of Rs. 1000/- for General/OBC Category and Rs. 500/-for SC/ST/PD/ Female Candidate should be attached with the form marked as, **Copy for Principal Coordinator** on top of the form. Candidate should write their application number, name, address and courses applied on back side of the receipt. Candidate should note that the fee paid by other means, i.e., by **DD, IPO, cheques, etc. are not acceptable. Application fees once paid cannot be refunded.**

#### Procedure for Payment of Application Fee:

An online payment portal is created within the application process for payment of Application Fee. The candidates should first follow the registration steps as mentioned above. The fee will be required to be paid using the online portal just before printing the final version of the application.

### IX. CHECKLIST FOR EACH COPY OF THE APPLICATION FORM

- **In Forwarding Note, the candidate should check his/her Name, years and months of experience, signature (Head of Institution), date, and office seal with full contact details Name, Designation, Contact No., E-mail and AICTE affiliation No. of the parent institute.**
- **Photographs:** Affix recent stamp size photographs at space provided on all printed copies of Application Forms including the **Copy for Principal Coordinator.**
- **Signatures of the Applicant:** The candidate should sign in all the printouts at relevant places.
- Candidate should ensure that all information are properly filled in and required number of print-outs taken and all copies are to be send in a **single envelope to The Principal Coordinator QIP, Head, Centre for Educational Technology, IIT Guwahati, Guwahati-781039, Assam.**

#### Enclosures

1. **Application Fee: Receipt of** Online Payment of Rs.1, 000/- for General/OBC Category and Rs.500/- for SC/ST/PD/Female candidates should be enclosed with the **copy of the Principal Coordinator QIP form only.**
2. Candidates belonging to **SC, ST or OBC** category, must attach an attested copy of the **caste certificate** issued by a **competent authority** as per the Government of India rules.
3. **Physically Disabled** candidates must attach a copy of the certificate issued by a **competent authority** as per Government of India rules.
4. **Checklist:** Enclose attested copies of all the relevant certificates (one set with each print-out of application)
  - Certificates of the Qualifying Examination and other Degrees
  - Proof of age
  - Mark Lists of all years/semesters of qualifying examination (mark sheets clearly showing total marks obtained out of

- maximum marks according to semester or year)
- Teaching Experience arranged in chronological order with currently held position as first (Experience certificate from current institute must be enclosed)
- Industrial/Research Experience Certificates
- Certificates of Short Term Courses attended
- All Research Publications
- Any other Academic Qualifications/Awards, etc.

## X. INSTRUCTIONS FOR DESPATCHING

1. For the convenience of the candidate, a check list is also provided under point No. IX. One can use this list and ensure the completeness of application. Once completed, the entire bunch (all copies in a single envelop) is to be dispatched ONLY to **The Principal Coordinator QIP, Head, Centre for Educational Technology, IIT Guwahati, Guwahati– 781039, Assam** along with the copy of Online Payment receipt. The envelop containing all the copies and enclosures should preferably be sent by Speed Post or a Courier Service so as to reach **on or before October 31, 2019 (Thursday)**. **Applications received after this date will not be considered.** For any clarification contact us: Phone: 0361-2583007, 0361-2583008; Fax: 0361-2690762; Email: qip@iitg.ac.in
2. **Before mailing the completed forms, please ensure that each copy of application form and its enclosures are properly fastened with a tag separately at the left-hand top corner.**
3. In case, your applications are submitted by your sponsor, it is your responsibility to ensure that the application is forwarded to the above mentioned address so as to reach **on or before October 31, 2019 (Thursday)**. **Applications received after this date will not be considered.**
4. In case, the candidate has forgotten the password, the candidate should send an email (using the email ID mentioned in the on-line application) to **qip@iitg.ac.in** furnishing the following details: Application Number, Name of the Candidate, Date of Birth, and Address for Correspondence, Gender and Category. After verification, the candidate will be informed about the password through email only.

## XI. LAST DATE

The last date for on-line submission of application is **October 18, 2019 (Friday)**. The last date for hard copy submission of application is **October 31, 2019 (Thursday)**. **Applications received after this date will not be considered.**

## XII. PROCEDURE FOR ADMISSIONS UNDER QIP

1. **Short-listing** of the candidates will be done first by the office of the Principal Coordinator QIP, then finally at the Department/ Institute concerned. Interview letters will be sent to the short-listed candidates by the Department/ Institute concerned.
2. **Interviews** will be conducted in the Departments at the individual Institutions. **Schedule of interviews** is provided in the next Section. Please note that **No TA/DA will be paid to candidates** for attending the interviews.
3. **Selections** will be made by the National QIP Coordination Committee (NQCC) based on the recommendations of various concerned institutions.
4. **Final Results** will be available at the website: [www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html)
5. **Admission** letters will be issued to the selected candidates by the respective QIP Centres or Academic section of the institutions offering the admission. His/her candidature is liable to be cancelled at any stage even after the selection/ admission.

### **XIII. SCHEDULE OF INTERVIEWS FOR ADMISSION TO MASTER DEGREE PROGRAMME UNDER QIP**

The following dates of interview at various QIP Centres, finalized by Principal Coordinator QIP/National QIP Coordination Committee (NQCC), are final and cannot be altered under any circumstances.

| <b>S.No</b> | <b>Institute</b>   | <b>Interview Date</b> | <b>Day</b> |
|-------------|--|-----------------------|------------|
| 1           | Indian Institute of Engineering Science and Technology, Shibpur  | 06/01/2020            | Monday     |
| 2           | Jadavpur University, Kolkata                                     | 07/01/2020            | Tuesday    |
| 3           | Indian Institute of Technology Kharagpur                         | 13/01/2020            | Monday     |
| 4           | National Institute of Technology, Rourkela                       | 17/01/2020            | Friday     |
| 5           | Indian Institute of Technology (Indian School of Mines), Dhanbad | 20/01/2020            | Monday     |
| 6           | Indian Institute of Technology Guwahati                          | 24/01/2020            | Friday     |
| 7           | Indian Institute of Technology Delhi                             | 29/01/2020            | Wednesday  |
| 8           | Indian Institute of Technology (BHU), Varanasi                   | 05/02/2020            | Wednesday  |
| 9           | Motilal Nehru National Institute of Technology, Allahabad        | 07/02/2020            | Friday     |
| 10          | Indian Institute of Technology Kanpur                            | 14/02/2020            | Friday     |
| 11          | SGS Institute of Technology & Science, Indore                    | 17/02/2020            | Monday     |
| 12          | Indian Institute of Technology Roorkee                           | 20/02/2020            | Thursday   |
| 13          | Indian Institute of Technology Bombay                            | 25/02/2020            | Tuesday    |
| 14          | National Institute of Industrial Engineering, Mumbai             | 26/02/2020            | Wednesday  |
| 15          | Visvesvaraya National Institute of Technology, Nagpur            | 02/03/2020            | Monday     |
| 16          | JSS Science and Technology University, Mysore                    | 04/03/2020            | Wednesday  |
| 17          | Malnad College of Engineering, Hassan                            | 05/03/2020            | Thursday   |
| 18          | Indian Institute of Science Bangalore                            | 13/03/2020            | Friday     |
| 19          | UVCE, Bangalore  | 16/03/2020            | Monday     |
| 20          | BMS College of Engineering, Bangalore                            | 17/03/2020            | Tuesday    |
| 21          | National Institute of Technology Karnataka, Surathkal            | 20/03/2020            | Friday     |
| 22          | Indian Institute of Technology Madras                            | 23/03/2020            | Tuesday    |
| 23          | Anna University, Chennai   | 24/03/2020            | Tuesday    |
| 24          | National Institute of Technology, Tiruchirappalli                | 26/03/2020            | Thursday   |
| 25          | PSG College of Technology, Coimbatore                            | 30/03/2020            | Monday     |
| 26          | National Institute of Technology, Calicut                        | 07/04/2020            | Tuesday    |
| 27          | National Institute of Technology, Warangal                       | 13/04/2020            | Monday     |

### **XIV. DEPARTMENTS AND FIELDS OF SPECIALISATION AT VARIOUS INSTITUTIONS**

The departments offering admission to Master degree (2 years) programs at various institutions and the fields of specialization in the departments are listed in the Tables given below.

Specializations mentioned indicate only areas of interest and are not exhaustive. There may not be admissions open to all the areas indicated, and candidates, if found suitable, may be admitted to related areas also.

The details given are subject to variation and change from time-to-time and only those operating in the respective institutions at the time of actual admissions are applicable. Candidates desirous of more information such as for accommodation, fee structure etc. may write/contact to the QIP Coordinator of the individual institution or visit their website.

## 1. Indian Institute of Science Bangalore - BG

In all cases, the minimum eligibility is second class or equivalent grade point in the qualifying examination or Bachelor's degree in Science with Physics and Mathematics in the curriculum followed by the professional diploma as relevant to individual departments.

| Code   | Department  | Fields of Specialization   | Minimum Qualification   |
|--------|---|--|---|
| BGAE01 | Aerospace Engineering   | Structures, Aerodynamics, Propulsion, Control and Guidance of Aircraft, Rockets and Spacecraft.  | BE/B.Tech. or equivalent degree in Aeronautical, Chemical, Civil, Mechanical Engineering, Instrumentation & Control, Electrical, Electronics, OR Communication or B.Sc. or equivalent degree followed by AMIE/ AMAeSI/ AMIIChe/ IETE, GRAD.   |
| BGCH01 | Chemical Engineering  | Alternative Energy; Biochemical Engineering; Biophysics; Catalysis; Complex Fluids; Alleviation of Environmental Pollution; Nanotechnology; Optimization and Control; Modeling, Design and Intensification of chemical processes; Molecular Simulations; Theoretical Biology; Thermodynamics; Transport Phenomena  | BE/B.Tech or equivalent degree in Chemical Engineering or BSc or equivalent degree with Mathematics as one of the subjects followed by AMIE in Chemical Engineering or AMII ChE   |
| BGCE01 | Civil Engineering   | Civil Engineering with major in Geotechnical Engineering, Structural Engineering and Water Resources & Environmental Engineering   | BE/B.Tech or equivalent degree in Civil Engineering   |
| BGCE02 |   | Transportation and Infrastructure Engineering  | B.E./B.Tech in any discipline   |
| BGCS01 | Computer Science and Automation   | <b>Theoretical Computer Science</b> - Algorithms; Complexity Theory; Combinatorial Optimization; Graph Theory; Information and Coding Theory; Cryptography; Cryptology; Security; Secure Distributed Computing; Computational Geometry; Computational Topology; Algorithmic Algebra; Computational Biology; Automata Theory; Formal Verification.<br><b>Computer Systems and Software</b> - Computer Architecture; Multi-Core Computing; Parallel and High Performance Computing; Operating Systems; Storage Systems; Computer Systems Security; Database Systems; Cloud Computing; Distributed Computing; Modeling and Simulation; Compiler Design; Program Analysis; Programming Languages; Software Engineering; Adhoc Mobile and Sensor Networks; Graphics and Visualization.<br><b>Intelligent Systems</b> - Data Mining; Data Analytics; Deep Learning; Information Retrieval; Machine Learning; Pattern Recognition; Reinforcement Learning; Convex Optimization; Stochastic Control and Optimization; Game Theory; Auctions and Mechanism Design; Electronic Markets; Social Network Analysis; Cognitive Systems; Natural Language Processing; Computational Neural Modeling, Computational Brain Imaging. | BE/B.Tech or equivalent degree in Computer Science and /or Engineering (CS) or Information Technology (CS) or Information Science and Engineering (CS).   |
| BGPD01 | Centre for Product Design & Manufacturing   | Product Design and Engineering   | B.E./ B.Tech or equivalent degree in any discipline(GATE/CEED) or B.Des (CEED) or B. Arch. (GATE or CEED  |
| BGSA01 | Systems Engineering and Automation (Jointly conducted by departments of Electrical Engg. & Computer Science and Automation) | Dynamics of Linear Systems, Stochastic Models, Linear and Non-linear Optimization, Cryptography, Data Mining, Machine Learning, Game Theory, Computer Communication Systems. Digital Image processing, Speech Information Processing, Computer Vision, Medical Imaging and Processing.   | BE/B. Tech. or equivalent degree Computer Science/ Engineering, Electrical, Electronics, Communication ,Instrumentation, Mechanical or Chemical Engineering, OR B.Sc. or equivalent degree followed by AMIE in Electrical, Electronics and Communication, Mechanical or Chemical Engineering, GRAD. IETE, AMIChE, Candidates should have done a formal course in Programming in Language. |
| BGEC01 | Electrical Communication Engineering  | Communications and Networking; Information and Coding Theory; Microelectronics; Microwaves; Photonics; Signal Processing; Optical Communication; Wireless Communication Information Theory and Coding.   | BE / B Tech or equivalent degree (with a GATE Paper in EC).   |
| BGEE01 | Electrical Engineering  | Dynamics of Linear Systems, Power System Dynamics and Control, Computer Control of Power Systems, Advanced Power Systems Analysis; Power Electronics, Electric Drives, Switched Mode Power Conversion, Embedded Systems Design for Power Applications, Electromagnetism, Generation and Measurement of High Voltages, EHV Power Transmission, HV Power Apparatus, Overvoltages in Power Systems  | BE/B.Tech. or equivalent degree in Electrical, or Electrical & Electronics or B.Sc. or Equivalent degree followed by AMIE in Electrical.  |
| BGME01 | Mechanical Engineering  | Solid Mechanics, Fluid Mechanics, Thermal Science, Design and System Analysis, Material Science, Technical Acoustics, IC Engines, MEMS, Bio-Mechanics, Computational Mechanics.  | BE/B.Tech or equivalent degree in Mechanical Engineering or B.Sc. equivalent degree with Mathematics followed by AMIE in Mechanical Engineering, or AMI Mech E(I)   |
| BGMT01 | Materials Engineering   | Mechanical Behavior of Metals, Ceramics, Polymers Glasses and Thin Films. Biomaterials Engineering. Polymer Nanocomposites. Organic Electronics. Sensors. Mineral Processing. Biohydrometallurgy. Extractive Metallurgy. Process Modeling. Physical Metallurgy. Phase Stability and Transformation. Diffusion. Solidification. Li-ion batteries.   | BE/ B. Tech or equivalent degree in Metallurgy/ Mechanical Engineering/ Chemical Engineering /Ceramic Engineering/ Technology or B.Sc. or equivalent degree with Mathematics.   |



| Code   | Department   | Fields of Specialization   | Minimum Qualification  |
|--------|--|--|--|
|        |  | Electrocatalysts, printed electronics.   | Physics & Chemistry followed by AMIE in Metallurgical Engineering or AMIIM.  |
| BGML01 | Microelectronics System (Jointly conducted by, Electrical Communication Engg. & Dept. of Electronic Systems Engineering) | Digital VLSI Design; FPGA; ASIC; Nano CMOS Technology; Analog and RF Circuits Design; MEMS; Photonic Integrated Circuits. Optics   | BE/ B Tech or equivalent degree (with a GATE Paper in EE; EC; CS; IN).   |
| BGSP01 | Signal Processing (Jointly conducted by Elect. Engg & Electrical Communication Engg.)                                    | Digital Signal Processing; Image Processing; Signal Compression; Neural Networks; Biomedical Signal Processing; Speech/Audio Info. Processing; Array Processing; Pattern Recognition; Signal Processing for Communication; Sparse Signal Processing; Compressed Sensing Indoor Localization. Detection and Estimation.   | BE / B Tech or equivalent degree (with a GATE Paper in EE; EC).  |
| BGED01 | Electronic Systems Engineering   | Communication and Computer Networks, Cyber Physical Systems, Embedded Systems, Nanoelectronics, Power Semiconductors, Power Conversion, VLSI Design, Electronic Packaging, Instrumentation, Microengineering, Biomedical Devices.  | BE/ B.Tech or equivalent degree in Electrical (EE), Electronics and Communication (EC), Computer Science (CS), Instrumentation with Electronics (IN) or B.Sc. or equivalent followed by AMIE a relevant area of specialization OR M.Sc.in Physics with Electronics as the special subject. (M.Sc. degree or equivalent degree holders should possess 2-years' experience in Electronic Hardware) |
| BGIN01 | Instrumentation and Applied Physics  | Semiconductor Devices and Circuits, Quantum computation, Control Systems, Nanoelectronics, Quantum dots, Sensors and related Instrumentation, Materials Engineering, Microscopy and Imaging, Analytical Instrumentation, Electronic Instrumentation, Lasers and Optical Instrumentation, Microfluidic Devices, Vacuum and Thin Films, Micro and Nano Systems.  | M.Sc. or equivalent degree with specialization in Instrumentation / Physics / equivalent or B.E. / B.Tech. or equivalent in Instrumentation, Engineering Physics or Electronic Engineering   |
| BGCD01 | Computational and Data Sciences  | Multidisciplinary program addressing Computational and Data Sciences. Topics include: Numerical Linear Algebra, Numerical Methods, Modeling and Simulation, Optimization, Scalable systems, Cloud Computing, Scalable methods, Data Analysis, Visualization, Deep Learning, and Big Data platforms. ( <a href="http://cds.iisc.ac.in/academics/degree-programs/">http://cds.iisc.ac.in/academics/degree-programs/</a> )  | BE/B.Tech or equivalent degree in any discipline, M.Sc. or equivalent degree in any discipline or M.C.A. In all cases strong mathematical and programming background is required.  |
| BGAS01 | Centre for Atmospheric & Oceanic Sciences  | Atmospheric Sciences , Oceanic Sciences  | BE/ B. Tech. or equivalent degree in Aerospace Civil, Chemical, Electronics & Communication, Electrical, Mechanical Engineering, Engineering Sciences or M. Sc or equivalent degree in Physical Sciences.  |
| BGES01 | Centre for Earth Sciences  | Application of major and trace element geochemistry and radiogenic and stable isotope geochemistry to modern-day and early Earth processes, igneous and metamorphic petrology, geochronology and crustal evolution, paleotectonics, atmospheric chemistry, chemical oceanography, paleoclimate reconstruction, weathering, lithosphere and mantle dynamics, planetary magnetism and core dynamics, seismotectonics and seismic hazards, subduction zone earthquakes. | B.E./ B.Tech. or equivalent degree in any discipline or M. Sc. or equivalent degree in any branch of Science or graduate of 4-year Bachelor of Science programme.  |

## 2. Indian Institute of Technology Bombay – BM

In all cases, the minimum eligibility is a First Class or equivalent (Min.60%) Bachelor' Degree in Engineering/Technology (55% for SC/ST)

| Code   | Department   | Fields of Specialization  | Minimum Qualification   |
|--------|--|---|---|
| BMAE01 | Aerospace Engineering  | ynamics   | Bachelor's degree in Aerospace, Aeronautical, Mechanical, Civil or its equivalent   |
| BMAE02 |  | mic and Control   | Bachelor's degree in Aerospace, Aeronautical, Mechanical, Electrical/ Electronics/ Instrumentation or its equivalent.   |
| BMAE03 |  | pace Propulsion   | Bachelor's degree in Aerospace, Aeronautical, Mechanical or its equivalent.   |
| BMAE04 |  | pace Structures   | Bachelor's degree in Aerospace, Aeronautical, Mechanical, Civil or its equivalent   |
| BMCH01 | Chemical Engineering   | <p><b>Research Areas:</b></p> <p><b>Process Systems Engineering:</b><br/>Process Simulations, Optimizations, Process Integration and Scheduling, Energy Conservation and Optimal Resource Management, Artificial Intelligence and Mathematical Modeling, Multi-scale Modeling. Systems Identification and Process Safety Analysis, Nonlinear control, fault diagnosis.</p> <p><b>Biotechnology &amp; Bio-Systems Engineering:</b><br/>Metabolic &amp; Genetic Engineering, Bio-separations, Bioinformatics, Systems Biology, Drug Discovery, Enzymology, Bioprocess Development, Bio-fuels.</p> <p><b>Materials Engineering:</b><br/>Polymer materials, Polymer Reaction Engineering, Polymer Processing, Polymer Physics. Polyurethane, Rubber Polymer Rheology, Ceramics, Polymers, Biomaterials, Drug Delivery Food Engineering Microscopy, Nano-composites, Statistical Thermodynamics and Supercritical Fluids.</p> <p><b>Catalysis &amp; Reaction Engineering:</b><br/>Catalysis, Multiphase Reaction, Bio-reaction Engineering and Reactor Modeling, Process intensification &amp; reactive distillation Micro- reactors.</p> <p><b>Transport, Colloids &amp; Interface Science:</b><br/>Granular flows, Powder Mixing, Membrane Separations, Rheology of Complex Fluids, Colloids, Sol-gels, Emulsions &amp; Foams, Paints and Coatings, Micro-structural Engineering, Acrosols, Electro-hydrodynamics, Fluid Mechanics &amp; Stability, Computational Fluid Dynamics, Heat &amp; Mass transfer, Porous media, and Surfactants Micro- fluidics.</p> <p><b>Energy and Environment:</b><br/>Climate change, Coal Gasification, Energy Integration, Green Engineering, Renewable Resources, Waste Management, Pollution Control, Air Pollution Prediction &amp; Control, sustainability studies.</p> <p><b>Thermodynamics and Molecular Simulations:</b><br/>Properly prediction through molecular simulation, fuel cell, catalytic systems, biological systems, polymers.</p> | Bachelor's degree in Chemical Engineering OR equivalent   |
| BMCE01 | Civil Engineering<br>(Code no. of specialization to be indicated in the datasheet) | Transportation Systems Engineering  | B.E/B.Tech. in Civil Engineering or equivalent.<br>First class or equivalent (60%) in qualifying degree (55% for SC/ST) is essential for general eligibility. |
| BMCE02 |  | Geotechnical Engineering  |   |
| BMCE03 |  | Water Resources Engineering   |   |
| BMCE04 |  | Structural Engineering  |   |
| BMCE05 |  | Ocean Engineering   |   |
| BMCE06 |  | Remote Sensing  |   |
| BMCE07 |  | Construction Technology and management  |   |

| Code   | Department                       | Fields of Specialization   | Minimum Qualification  |
|--------|----------------------------------|--|--|
| BMBM01 | Bio Sciences & Bio Engineering   | <ul style="list-style-type: none"> <li>• Biomedical transducers and sensors including biosensors and bioMEMS devices</li> <li>• Biomaterials and tissue engineering</li> <li>• Bionanotechnology</li> <li>• Biophysics, cellular mechanics and computational biology</li> <li>• Controlled drug delivery systems</li> <li>• Computational neurophysiology</li> <li>• Microfabrication and microfluidics</li> <li>• Telemedicine and knowledge based systems</li> <li>• Biophotonics, Tomography, Inverse Problems</li> <li>• Movement neurophysiology, neural plasticity, non-invasive brain stimulation, rehabilitation technology</li> </ul> | <p>First class or 60% marks (55% marks for SC/ST) in *:</p> <p>* as specified in the clause A.7.3 in the "Important Guidelines for M.Tech. Application" of this brochure.</p> <p>Qualifying Disciplines</p> <p>i. B.Tech./B.E./AMIE or equivalent in Biomedical, Biotechnology, Chemical, Computer Science, Electrical, Electronics, Instrumentation, Mechanical Engineering, Metallurgy and Materials Science, Telecommunications Engineering, Engineering Physics, Pharmaceutical Technology and other engineering; OR</p> <p>ii. M.Sc. or equivalent in Maths, Biochemistry, Biophysics, Biotechnology, Ceramics, Chemistry, Electronics, Ergonomics, Materials Science, Mathematics, Molecular Biology, Physics, Physiology and other science; OR</p> <p>iii. ** MBBS/BDS OR</p> <p>iv. ** B. Pharm/M. Pharm OR</p> <p>v. ** B.V.Sc., B.P.Th. and B.O.Th. degree (Duration 4 years or more)</p> <p>Entrance examination requirement for TA/RA/TAP/RAP Category</p> <p>Valid GATE score in any discipline for engineering and science graduates (for i and ii above),</p> <p>AIIMS/NEET-PG/JIPMER/PGI Chandigarh/AFMC-Pune/DNB Part I/Pre-M.D.S. national level medical and dental postgraduate entrance examinations or GATE Life Sciences examination for medical and biological sciences (for iii above).</p> <p>GPAT / All India level selection examination for B.Pharm. (for iv above)</p> <p>All India level post graduate entrance examination for M.V.Sc., M.P.Th. and M.O.Th. (for v above)</p> <p>** Candidate with qualifications mentioned against (iii), (iv) &amp; (v) must submit a certificate for their having First class or 60% marks (55% for SC/ST) * in qualifying degrees, failing which, they will not be eligible for admission to M.Tech. in Biomedical Engineering</p> <p>Eligibility/rank certificates for all such All India level entrance examinations are required (for iii, iv and v above).</p> <p>Shortlisted candidates will be called for written test / interview.</p> |
| BMCS01 | Computer Science and Engineering |  | <p>B.E/ B.Tech in CS &amp;E with first class or MCA/ B.E/ B.Tech in any branch with valid CS GATE</p>  |

| Code   | Department             | Fields of Specialization   | Minimum Qualification   |
|--------|------------------------|--|---|
| BMEE01 | Electrical Engineering | <b>Communication Engineering:</b><br>Communication Systems, Communication Networks and Internet, Computational Electromagnetics, Image Processing and Computer Vision, Microwaves, RF and Antennas, Multimedia Systems, Optical Communication and Photonics, Signal Processing, Speech Processing, Wireless and Mobile Communication, Information Theory and Coding, Magnetic Resonance Imaging.   | (i). B.E./B.Tech./AMIE or equivalent in Computer Science and Engineering/Information Technology (CS), Electronics/ Telecommunication Engineering (EC), Electrical Engineering (EE), Engineering Physics (EP)<br>(ii). M.Sc. or equivalent in Electronics / Electronic Sciences (EC), Physics (PH)   |
| BMEE02 |                        | <b>Control &amp; Computing:</b><br>Linear systems Theory, Optimal Control & Optimization, Modeling and Identification of Dynamical Systems, Control of Distributed Parameters Systems, Non-Linear Systems, Modern Filter & Network Theory, Behavioral Systems Theory, Computational Methods in Electrical Engineering Software and System Reliability Cryptography and Security, GPU-based Computing.  | (i). B.E./B.Tech./AMIE or equivalent in Aeronautical / Aerospace Engineering (AE) Computer Science and Engineering / Information Technology (CS), Electronics/ Telecommunication Engineering (EC), Electrical Engineering (EE), Engineering Physics (EP), Instrumentation Engineering (IN), Energy Engineering (EN)<br>(ii). M.Sc. or equivalent in Electronics/Electronic Sciences (EC), Mathematics (MA), Physics (PH)      |
| BMEE03 |                        | <b>Power Electronics &amp; Power Systems:</b><br>FACTS, HVDC and Power Quality, Distributed Generation, Power System Restructuring, Wide Area Measurements and System Protection, EMI/ EMC Coupled Field computations, Electrical Machines; Modeling, Analysis, Design and Control, Special Machines, Power Electronic Converters, Electric Drives, Power Electronics for Non-Conventional Energy Sources, Reliability in Power Systems and Power Electronic Systems, Smart Grids for Energy Harvesting.   | (i). B.E./B.Tech./AMIE or equivalent in Computer Science & Engineering Information Technology (CS), Electronics/ Telecommunication Engineering (EC), Electrical Engineering (EE), instrumentation Engineering (IN), Energy Engineering (EN)   |
| BMEE05 |                        | <b>Electronic Systems:</b><br>Electronics Systems, Electronic Instrumentation, Signal Processing Applications, Speech and Audio Processing, Bio-medical Electronics, Embedded System Design.   | (i). B.E./B.Tech./AMIE or equivalent in Biomedical Engineering (BM), Electrical Engineering (EE), Electronics/ Telecommunication Engineering (EC), Engineering Physics (EP), Instrumentation Engineering (IN), Energy Engineering (EN), Computer Science and Engineering/ Information Technology (CS)<br>(ii). M.Sc. or equivalent in Electronics / Electronic Sciences (EC)  |
| BMEE06 |                        | <b>Integrated Circuit &amp; System:</b><br>Digital System Design<br>• Analog/Mixed-signal/RF Integrated Circuits and Systems<br>• Sensing Device Design and Fabrication<br>• Miniature Sensor Systems<br>• Energy Harvesting and Power Management<br>• Data Converters, Phase Locked Loops<br>• High-Speed Serial Links/Interfaces   | (i). B.E./B.Tech./AMIE or equivalent in Biomedical Engineering (BM), Computer Science and Engineering/ Information Technology (CS), Electrical Engineering (EE), Electronics/Telecommunication Engineering (EC), Engineering Physics (EP), Energy Engineering (EN), Instrumentation Engineering (IN)<br>(ii). M.Sc. or equivalent in Electronics / Electronic Sciences (EL)   |
| BMEE07 |                        | <b>Solid State Devices</b><br>• Non-volatile memory technologies (Flash, RRAM, FERAM, MRAM, etc.)<br>• Device Fabrication (CMOS, Solar cells, Detectors, etc.)<br>• Theory, modeling, and simulation of Electronic devices<br>• Novel materials and devices (III-V, Graphene, 2D, etc.)<br>• Spintronics, Quantum Computing, Quantum sensing, and related technologies<br>• Photonics, MEMS, Neuromorphic Engineering<br>• Photovoltaics - c-Si, Organics, Perovskite, quantum dots, etc.<br>• Reliability of semiconductor devices and systems (e.g., Solar panels, PV systems)<br>• Nanoscale energy conversion<br>• Flexible devices and sensors (bio, chemical, and quantum)<br>• Light emitting diodes (III-Nitride UV) and photodetectors (quantum dot, etc)<br>• Wide Bandgap Power Devices | (i). B.E./B.Tech./AMIE or equivalent in Computer Science & Engineering / Information Technology (CS), Electronics/ Telecommunication Engineering (EC) Electrical Engineering (EE), Engineering Physics (EP), Energy Engineering (EN), Metallurgical Engineering / Materials Science & Engineering (MT), Instrumentation Engineering (IN)<br>(ii). M.Sc. or equivalent in Electronics / Electronic Sciences (EL), Physics (PH) |
| BMME01 | Mechanical Engineering | Thermal and Fluids Engineering   | First class in B.E. /B.Tech or Equivalent Degree (with 60% Minimum; 55% for SC/ST) in Mechanical Engineering/ Aerospace Engineering/ Chemical Engineering/ Automobile Engineering.  |

| Code   | Department   | Fields of Specialization   | Minimum Qualification  |
|--------|--|--|--|
| BMME02 |  | Design Engineering   | First class in B.E/ B.Tech. or Equivalent Degree (with 60% Minimum; 55% for SC/ST) in Mechanical Engineering/ Aerospace Engineering/ Aerospace Engineering/ Chemical Engineering/ Automobile Engineering/ Applied Mechanics.   |
| BMME03 |  | Manufacturing Engineering  | First class in B.E/ B.Tech. or Equivalent Degree (with 60% Minimum; 55% for SC/ST) in Mechanical/ Production/M/c Tool/Industrial Engineering/ Aerospace/ Metallurgical Engineering   |
| BMMM01 |  | Materials Science  | MM1: (i) B.E./B.Tech./AMIE or equivalent in Ceramic Engineering (CG), Chemical Engineering (CH), Electrical Engineering (EE), Electrochemical Engg. (EH), Engineering Physics (EP), Mechanical Engineering (ME), Metallurgical Engineering /Materials Science & Engineering (MT), Polymer/plastic Engineering (PO)<br>(ii). M.Sc. or equivalent in Chemistry (CY), Materials Sciences (MS), Physics (PH) |
| BMMM02 | Metallurgical Engineering and Materials Science                                      | Process Engineering  | (i). B.E./B.Tech./AMIE or equivalent in Chemical Engineering (CH), Electrochemical Engineering (EH), Mechanical Engineering (ME), Metallurgical Engineering /Materials Science & Engineering. (MT)<br>(ii). M.Sc. or equivalent in Chemistry (CY), General or specialization in Physical or Inorganic Chemistry Materials Science (MS)   |
| BMMM03 |  | Steel Technology Corrosion Science & Engineering   | B.E./B.Tech./AMIE or equivalent in Chemical Engineering(CH) Mechanical Engineering(ME),Metallurgical Engineering / Materials Science & Engineering(MT).  |
| BMMM04 |  | Corrosion Science & Engineering  | (i).B.E./ B.Tech./ AMIE/ AMIIM or equivalent in Aeronautical / Aerospace Engineering (AE), Chemical Engineering (CH) Civil Engineering (CE), Electrical Engineering (EE) Electrochemical Engineering (EH),Mechanical Engineering (ME) Metallurgical Engineering / Materials Science & Engineering (MT)   |
| BMEN01 | Department of Energy Science and Engineering<br>M.Tech in Energy Systems Engineering | <b>Energy Efficiency / Improvements in conventional Energy Systems:</b> Heat pumps, Energy integration, Process integration for resource optimization, Pinch Analysis - Development of techniques for optimization of Utility systems, Demand Side Management/ Load Management in the Power Sector, Variable Speed Drives, Power Generation and Systems Planning, Energy Management and Auditing, Efficient Motor Drive Systems, Electronics Ballasts, Static VAR compensators, Illumination control, Power Electronics in Energy Efficient Systems, Electric Vehicles, Boilers and Fluidised Bed Combustion, Exhaust Heat Recovery, Cogeneration, Building Energy Management, Efficient Air Conditioning Systems, Hydrogen Generation and Storage, Thermal energy Storage.<br><b>Renewables:</b> Biomass Gasifier Design, Development and Testing, Pyrolysis for liquid fuels and chemical, CNG Kit development, Testing of Solar Collector and systems, Passive Solar Architecture, Development of Carbon PV cell, Decentralised Power Systems -Grid Integration Issues, Hybrid Systems for Rural Electrification, Wind Energy, Low Cost Solar Drier, Fuel Cells, Thin film solar cells, Carbon nanotubes for hydrogen storage, Solar photovoltaic concentrator, Waste to Energy Electrochemical energy Storage.<br><b>Clean Coal Technologies:</b> Underground Coal Gasification, Chemical Looping, Clean Combustion, CO <sub>2</sub> sequestration<br><b>Nuclear:</b> Nuclear Safety, Nuclear Waste management, Thermal Hydraulics, Computer Simulation Models for Analysis of Transients in Pressurised Heavy Water Reactor<br><b>Oil and Gas:</b> Wax deposition, Oil-water separation, Enhanced oil recovery, Gas hydrate formation, etc. | Candidates with First class or 60% (55% for SC/ST) in bachelor's degree in Mechanical, Electrical, Chemical, Energy Systems, Thermal Power, Automobile, Aerospace, Aeronautical, Metallurgical or Civil Engineering or equivalent with valid GATE score in any discipline are eligible for admission   |

| Code   | Department                                     | Fields of Specialization  | Minimum Qualification  |
|--------|--|---|--|
| BMEV01 | Environmental Science and Engineering          | Environmental Monitoring, Industrial Air & Water Pollution Control, Solid and Hazardous Waste Management, Air & Water Quality Modeling, Environmental Systems Optimization, Environmental Microbiology & Biotechnology, Bioremediation, Indoor, Air Quality, Aerosol Science and Technology, Environmental Impact Assessment and Global Issues.   | Bachelor of Engineering degree in Aeronautical / Aerospace, Agricultural, Chemical, Civil, Energy, Biotechnology, Environmental, Mechanical, Metallurgical Engineering/ Materials Science & Engineering, and Mining Engineering or a Master of Science degree in Atmospheric Science, Biochemistry, Biotechnology, Chemistry, Earth Sciences, Environmental Toxicology, Environmental Sciences, Meteorology, Microbiology and Physics for M.Sc graduates, Mathematics is mandatory at Higher Secondary/ Intermediate (10+2) level. |
| BMIO01 | Industrial Engineering and Operations Research | <p>The specific problems of research interests include: production planning, scheduling and control systems; distribution and service systems; industrial scheduling, facilities planning, project management, quality management, materials management and productivity management; Data Analytics &amp; Data Management. Supply chain analysis, reverse logistics, closed-loop supply chains and RFID applications, product variety management.</p> <p>Operations Research applications in management of technology and resource allocation; convex optimization; mixed-integer programming; Markov decision processes; optimal control in deterministic and stochastic systems; (differential) game theory; applications of game theory; modeling and simulation of supply chains, manufacturing and service systems; theory and applications of distributed and hybrid simulations, discrete event and system dynamics simulations; applied stochastic models; scheduling and control of railways and other transport operations; time tabling of services, crew and vehicle scheduling for transport operations; optimization and design problems arising from e-commerce, including auctions and mechanism design for electronic exchanges; risk analysis and contract design; revenue management; quantitative models for financial engineering. Supervised learning &amp; Unsupervised Learning; Online and reinforcement Learning. Deep Learning, Longitudinal data analysis, Kernel methods. Development and applications of modern information systems for managing manufacturing, supply chain and service organizations.</p> <p>The IEOR programme is unique in its contemporary flavor, with new courses in Financial Engineering, Supply Chain Management, Game Theory, Markov decision process, System Dynamics, Machine Learning Services Management, Manufacturing systems to name a few.</p> <p>The programme is equally in background building, with updated courses in optimization, stochastic models, simulation, &amp; knowledge based systems.</p> | Candidates having a first class Bachelor's degree in any branch of Engineering with valid GATE Score in any discipline are eligible to apply.  |

| Code   | Department           | Fields of Specialization  | Minimum Qualification  |
|--------|----------------------|---|--|
| BMID01 | IDC School of Design | M Des:<br>Industrial Design<br>Communication Design<br>Animation<br>Interaction Design<br>Mobility and Vehicle Design | <p>In all cases the minimum eligibility is 55% in Bachelor Degree and 50% for SC/ST</p> <p><b>Industrial Design (ID)</b></p> <ol style="list-style-type: none"> <li>1. Bachelor's Degree in Design/Engineering/Architecture/ Interior Design: 10+2+4 years (minimum four year Bachelor's course).</li> </ol> <p>Note: B.Plan. considered equivalent to B.Arch. Four year B.Sc (Engg) course after HSC considered equivalent to BE/B.Tech.</p> <ol style="list-style-type: none"> <li>2. Professional Diploma in Design: 10+2+4 years (minimum four year diploma program).</li> </ol> <p><b>Communication Design (CD)</b></p> <ol style="list-style-type: none"> <li>1. Bachelor's Degree in Design/Engineering/Architecture/ Interior Design: 10+2+4 years (minimum four year Bachelor's course).</li> </ol> <p>Note: B.Plan. considered equivalent to B.Arch. Four year B.Sc (Engg) course after HSC considered equivalent to BE/B.Tech.</p> <ol style="list-style-type: none"> <li>2. Professional Diploma in Design: 10+2+4 years (minimum four year diploma program).</li> <li>3. BFA (4 Year professional program with entry after 10+2)</li> <li>4. GD Art (4 year program after 1 year foundation. Minimum entry requirement 10th pass). Note: B.Plan. considered equivalent to B.Arch. Four year B.Sc (Engg) course after HSC considered equivalent to BE/B.Tech.</li> </ol> <p><b>Animation Design (AN)</b></p> <ol style="list-style-type: none"> <li>1. Bachelor's Degree in Design/Engineering/Architecture/ Interior Design: 10+2+4 years (minimum four year Bachelor's course).</li> </ol> <p>Note: B.Plan. considered equivalent to B.Arch. Four year B.Sc (Engg) course after HSC considered equivalent to BE/B.Tech.</p> <ol style="list-style-type: none"> <li>2. Professional Diploma in Design: 10+2+4 years (minimum four year diploma program).</li> <li>3. BFA (4 Year professional program with entry after 10+2)</li> <li>4. GD Art (4 year program after 1 year foundation. Minimum entry requirement 10th pass).</li> </ol> <p><b>Interaction Design (IN)</b></p> <ol style="list-style-type: none"> <li>1. Bachelor's Degree in Design/ Engineering/ Architecture/ Interior Design: 10+2+4 years (minimum four year Bachelor's course).</li> </ol> <p>Note: B.Plan. considered equivalent to B.Arch. Four year B.Sc (Engg) course after HSC considered equivalent to BE/B.Tech.</p> <ol style="list-style-type: none"> <li>2. Professional Diploma in Design: 10+2+4 years (minimum four year diploma program).</li> <li>3. BFA (4 year professional program with entry after 10+2)</li> <li>4. Master's Degree in Arts, Science (3+2 year program with entry after 10+2).</li> <li>5. Master's Degree in Computer Application (3 year or 2 year in case of lateral entry to second year after BCA program with entry after 10+2+3 years for graduation).</li> <li>6. GD Art (4 year program after 1 year foundation. Minimum entry requirement 10th pass).</li> </ol> <p><b>Mobility and Vehicle Design (MD)</b></p> <ol style="list-style-type: none"> <li>1. Bachelor's Degree in Design/ Engineering/ Architecture/ Interior Design: 10+2+4 years (minimum four year Bachelor's course).</li> </ol> <p>Note: B.Plan. considered equivalent to B.Arch. Four year B.Sc (Engg) course after HSC considered equivalent to BE/B.Tech.</p> <ol style="list-style-type: none"> <li>2. Professional Diploma in Design: 10+2+4 years (minimum four year diploma program).</li> <li>3. BFA Sculpture (4 year professional program with entry after 10+2).</li> </ol> |

| Code   | Department                                 | Fields of Specialization   | Minimum Qualification  |
|--------|--|--|--|
| BMSC01 | Systems & Control Engineering              | <p>Geometric mechanics, differential geometry, nonlinear control, satellite and space-craft dynamics, robotics</p> <p>Higher order sliding mode control and observation, adaptive sliding mode control for discrete-time system</p> <p>Optimization-based control, control under communication constraints, stochastic control, switched and hybrid systems</p> <p>Game theory, optimization, economics, information theory and combinatorics, systems biology</p> <p>Global optimization, GPU supercomputing, fractional order differentiation and applications</p> <p>Cooperative control, guidance of autonomous vehicles, resource allocation</p> <p>Adaptive control, decentralized adaption, multi-agent systems, time varying feedback</p> <p>Embedded control systems, path planning of autonomous vehicles, vision based navigation, hardware/software co-design</p> <p>Distributed parameter systems, output regulation, periodic systems, parameter identification in PDEs, hardware/software co-design</p> <p>Control theory, nonlinear and geometric control, NMR spectroscopy, quantum control</p> | <p>Candidates having a Bachelor's Degree in Aeronautical / Aerospace / Chemical / Electrical / Electronics/ Instrumentation / Mechanical/ Metallurgical Engineering. Candidate should have undergone a basic course in Classical Control at their undergraduate level &amp; also involved in teaching courses related to Systems and Control in their college..</p>  |
| BMES01 | Earth Sciences                             | <p><b>Geoexploration: (GS)</b></p> <p>The programme is structured such that the students can learn various aspects of mineral, petroleum and groundwater exploration. It offers a wide range of courses in exploration methods, well logging, exploration geophysics, basin analysis, mineral resources, remote sensing, and groundwater hydrology.</p>  | <p>Candidates with first class or equivalent (Min. 60% marks; 55% marks for SC/ST) in Master's degree in Geology/Applied Geology/Geophysics/Applied Geophysics with valid GATE score in Geology (GL) or Geophysics (GP) are eligible for admission.</p>  |
| BMES02 |  | <p><b>Petroleum Geoscience: (PG)</b></p> <p>This specialization was introduced from July 2007. It prepares the students for a career in petroleum exploration and development. The programme provides skills in basin analysis, applied micropalaeontology, petrophysics, seismic interpretation, well logging, and data interpretation using workstations and softwares as used in the petroleum industry.</p>  |  |
| BMSR01 | Centre of Studies in Resources Engineering | <p>Remote Sensing and GIS applications, Surface and ground water resources, Terrain evaluation, Land use planning, Mineral and hydrocarbon exploration, Glacier, Snow and avalanche studies, Hazards of landslide, Drought and desertification, Marine and coastal environmental studies, Atmospheric remote sensing, Development of tools and techniques of spatial data processing, Digital image processing, Stereo Image analysis and digital cartography, Microwave remote sensing, Global Positioning Systems, Geographic information Systems and Science, Spatial Data Mining, Digital Agriculture</p>  | <p>Candidates with first class or 60% marks (55% marks for SC/ST) in Bachelor Degree in Engineering, Master degree in Science with the valid GATE score in any of the following papers are eligible for admission to this programme.</p> <p>Agricultural Engineering.<br/>Civil Engineering.<br/>Computer Science &amp; Engineering.<br/>Electronic &amp; Communication Engineering.<br/>Electrical Engineering<br/>Geology &amp; Geophysics<br/>Information Technology<br/>Mathematics<br/>Mining Engineering<br/>Physics<br/>Environment Engineering<br/>Architecture<br/>Geoinformatics</p> <p>Geomatics (GI)</p> |



| Code   | Department                    | Fields of Specialization   | Minimum Qualification  |
|--------|-------------------------------|--|--|
| BMHS01 | Humanities and Social Science | <p>Applied Microeconomics, Open-economy Macroeconomics &amp; International Finance, Applied Econometrics, Environmental Economics, Energy Economics, Empirical International Trade and Strategic Trade Theory and Policy, Evaluation of Economic Policies with Special Reference to India, Productivity Estimation: Measurement Issues, Comparisons and Determinants, Empirical Development Economics, Industrial Economics, Industry-Environment Linkages, Socio-Economic Impacts of Climate Change, Green Accounting, Natural Resource and Water Resource Economics, Climate Change: Impacts and Policy, Financial Economics, Monetary Economics, Corporate Investment: Theory and Econometric Applications, Health Economics, Corporate governance, Labour Economics, Applied Game Theory, Behavioural Economics, Experimental Economics, and Agricultural Economics.</p> <p>Narratology; Intertextuality; Victorian Novel; Indian Writing in English; Films and Disnarration; Women's Studies; Autobiography Studies; "Crisis" in English Studies; African American Writing; Morpho-Syntax; Linguistic Theory; First Language Acquisition; Endangered Languages Documentation; The Partition of 1947; the 'Turbulent 40s' in Bengal; South Asian Fiction-in English; and in Translation; Postcolonial Theory and Literature; Feminist Theory and Women's Writing; Cultural Studies; Feminist Theory; Literary Theory; Film Studies; Regional Literatures; and Cultures in India; Environmental Sociology; Social and Environmental Movements; Environmental Politics with a focus on Social inequality and Natural Resource Conflicts especially in Rural India; Issues of Livelihood and Problems of Marginalized Class and Political Ecology; Adaptation Studies; Shakespeare and Renaissance Drama; European Literature; 19th Century Bengali Literature; Literature and Other Arts; Translation Studies; World Literature; Historical Musicology &amp; Ethnomusicology, Theatre Historiography, Performance Philosophy, Colonial Theatre, Performance and Ethnography, Aesthetics, Critical Theory, Ecocriticism</p> <p>Metaphysics, Philosophy of Science, Philosophical Logic, Philosophy of Language, Professional Ethics, Philosophy of Wittgenstein, Sartre, Kripke, Quine, Moore, Hare, Bhartrahari, Philosophy of Mind, Philosophy of Education and Environmental Ethics, Indian Philosophy and Comparative Philosophy, Buddhist Philosophy, Sankhya Philosophy and Vedanta Philosophy, Philosophy of Artificial Intelligence, Philosophy of Mind, Cognitive Science, Analytic Philosophy, Twentieth Century European Philosophy; Moral, Social and Political Philosophy, Social Epistemology, Moral theory, Alfred Korzybski- 'General Semantics' and related areas, Philosophy of Language, Wittgenstein, Culture and Value, Ethics/Moral Philosophy, Social and Political Philosophy, Classical American Pragmatism, Feminist Philosophy, Twentieth century Continental Philosophy 20th Century Continental Philosophy: Heidegger, Foucault, Husserl, Gadamer, Phenomenology and Hermeneutics, Epistemology: Implications of the Historicity of Knowledge for its Universal Validity Metaphysics: Implications of an Ontology of Events for Political Philosophy History of Western Philosophy</p> <p>Psychological Perspectives and Theory, Organizational Behaviour, Personality Studies, Qualified MBTI user, Organizational Culture and Values, Role of Psychology in Development - Health and Contraceptive Use, Developmental Neuropsychology, Education and Child Development, Eyewitness Testimony, Cognitive Ergonomics, EEG / Event Related Potential, Working Memory and Prospective Memory and Developmental Dyslexia, Organization behavior, HRM, Culture and Values in organizations, Personality studies, Positive organization behavior and well-being.</p> <p>Urban Studies, Development Studies, Rural/Agrarian Sociology, Law and Governance Legal Pluralism, Vulnerability and Adaptation to Climate Change, Gender and Development, Disaster Studies, Ethnicity and Multiculturalism, Urban Studies, Sociological Theory, Sociology of Development, Anthropology of corruption, constitutional law, sociology of higher education, sociology of religion and kinship, conversion, Christianity in India. Caste today, religious institutions, hierarchy/stratification, sociology in/of India, contemporary Karnataka, Sociology of Development and Environment, Natural Resource Conflicts, Issues of livelihoods and problems of marginalized class, resource rights, subaltern resistance and movements and Political Ecology, Sociology and political economy Of finance, Political economy of development, Indian political economy, Theories of money, Classical political economy, New and old Institutionalism and History of economic thought, Issues of gender and sexuality, medical anthropology, anthropology of the body and embodiment, post- colonial studies, post-modern feminist studies and Southern theories, Caste, Civility and Democracy, Civil Society Ethnography Studies, Inclusion and Exclusion.</p> <p>Indian Science and Technology, Indian Philosophy, Logic and Epistemology, Sanskrit language, Paninian Grammar, Philosophy of Language.</p> | <p>M.Phil. Programme</p> <p>1) Master's degree in Arts, Commerce or equivalent with a minimum of 55% marks or equivalent letter grade (50% marks for SC/ST) from a recognized university or deemed university.</p> <p>2) B. Tech./ M.Sc. degree or equivalent with adequate background in Social Sciences with a minimum of 60% marks or equivalent letter grade (55% marks for SC/ST).</p> <p>Admission to this programme is open to those who qualify in M.Phil. Entrance Test (MET) / GATE/ UGC-JRF/ UGCNET. Those appearing for the above exams may also apply. Those who are in service can apply as sponsored candidates. The selection will be based on performance in the qualifying test and interview.</p> |

### 3. Indian Institute of Technology Delhi – DL

In all cases, the minimum eligibility is a graduate degree in Engineering/ Technology in the specified field with a minimum of 60% marks (6.00 CGPA) in aggregate (of all the year/semesters of the qualifying examination) or equivalent grade point average (as determined by IIT Delhi). For SC/ST/PD category candidates the minimum performance in the qualifying degree is relaxed from 60% to 55% (6.00 to 5.50 CGPA).

| Code   | Department                                    | Fields of Specialization  | Minimum Qualification  |
|--------|---|---|--|
| DLAM01 | Applied Mechanics                             | Engineering Analysis and Design Engineering with specializations in Engineering Mechanics or Product Design or Materials Engineering.   | Bachelor's degree in Aeronautical, Automobile, Civil, Industrial, Chemical, Mechanical, Design, Marine Engineering, Naval Architecture, or Production Engineering.   |
| DLCH01 | Chemical Engineering                          | All topics in Chemical Engineering  | Graduate degree in Engineering/ Technology in the specified field with a minimum of 60% marks (6.00 CGPA) in aggregate (of all the year /semesters of the qualifying examination) or equivalent grade point average (as determined by IIT Delhi). For SC/ST/PD category candidates the minimum performance in the qualifying degree is relaxed from 60%  |
| DLBM01 | Centre for Biomedical Engineering             | M.Tech. in Biomedical Engineering   | B.Tech./ B.E. in Biomedical, Chemical, Computer Science, Electrical, Electronics and Communications, Instrumentation and Mechanical Engineering, Engineering Physics, Biochemical Engineering and Biotechnology, Materials Science. & Technology OR M.Sc. or equivalent in Biotechnology, Chemistry, Electronics, Materials Science, Mathematics, Polymer Science and Technology, Physics OR M.B.B.S or B.D.S OR B. Pharma. (duration 4 years and more). |
| DLEN01 | Centre for Energy Studies                     | Energy Studies (JES)  | B.Tech./ B.Egg. in Chemical Engineering, Electrical Engineering, Electrical and Electronics Engineering, Engineering Physics, Energy Engineering, Mechanical Engineering, M.Sc. in Physics.  |
| DLEN02 |   | Energy & Environment Technologies and Management (ESN)  | B.Tech./ B.Egg. in Chemical Engineering, Electrical Engineering, Electrical and Electronics Engineering, Engineering Physics, Energy Engineering, Mechanical Engineering, M.Sc. in Physics.  |
| DLEN03 |   | Renewable Energy Technologies and Management (ESR)  | 4- year B.Tech./ B.Egg./ B.Sc./ BS in Chemical Engineering, Civil Engineering, Electrical Engineering, Electrical and Electronics Engineering, Engineering Physics, Energy Engineering, Mechanical Engineering, Industrial Engineering, Industrial Physics, Renewable Energy Engineering and M.Sc. in Physics.   |
| DLPS01 | Department of Materials Science & Engineering | <b>M.Tech. in Polymer Science and Technology</b><br>Synthesis of polymers, Structure-property correlation in polymers, Rheology and processing of polymers, polymers, polymers matrix composites, tribology and mechanical behavior of polymers, membranes for various applications, antifouling and antibiofouling materials. Polymer blends and alloys, biodegradable polymers, nanocomposites, hydro/cryogels for bio medical applications, surface functionalization. | B.Tech. in Polymer Science and Engineering or Plastic & Rubber Technology or Chemical Engineering, Chemical Technology, Plastic Engineering, Fiber Science & Technology or Material Science or M.Sc. in Chemistry or Physics or Materials Science, or Polymer Science.   |

| Code    | Department  | Fields of Specialization  | Minimum Qualification   |
|---------|---|---|---|
| DLPS02  |   | <b>M.Tech. in Material Engineering</b><br>Structure-property correlation in advanced materials, Metal matrix composites, 3D printing, nano-scale friction and wear, Auxetic materials, Materials characterization using advanced microscopy, phase transformation, tools, functionally graded materials, nanomaterials, Advanced ceramics, high entropy alloys, materials for extreme environments, thermal barrier coatings, Alloy processing and properties, refractory metals and compounds, First principle Density Functional Theory (DFT) based material design, Micromagnetic simulations, Semiconductor nanostructures and device applications, Magnetic nanowires and magnetic tunnel junctions for spintronic device applications; Organic electronics. | B.Tech. in or Materials Engineering, Metallurgical Engineering, Ceramic Engineering, Mechanical Engineering.  |
| DLCE01  | Civil Engineering<br>(Code no. of the specialization to be indicated in the data sheet) | Construction Engineering & Management   | In all cases, the minimum eligibility is a graduate degree in Engineering/ Technology in the specified field with a minimum of 60% marks (6.0 CGPA) in aggregate (of all the year/semesters of the qualifying examination) or equivalent grade point average (as determined by IIT Delhi). For SC/ST/PD category candidates the minimum performance in the qualifying degree is relaxed from 60% to 55% (6.0 to 5.5 CGPA).<br>Civil Engineering or Architectural Engineering. |
| DLCE02  |   | Environmental Engineering & Management  | Civil Engineering, Chemical Engineering, Biochemical and Biotechnology, Environmental   |
| DLCE03  |   | Rock Engineering & Underground Structures   | Civil Engg or Mining Engineering  |
| DLCE04  |   | Geotechnical & Geoenvironmental Engineering   | Civil Engineering   |
| DLCE05  |   | Structural Engineering  | Civil Engineering   |
| DLCE06  |   | Transportation Engineering  | Civil Engg, Architecture, Mechanical Engg, Urban and Regional Planning.   |
| DLCE07  |   | Water Resources Engineering   | Civil or Agricultural Engineering.  |
| DLCS01  |   | Computer Science & Engineering  | Computer Science & Engineering  |
| DL EE01 | Electrical Engineering  | Communication Engineering, Computer Technology, Control and Automation, Electrical Machines and Drives, Integrated Electronics and Circuits, Power Electronics Power Systems.   | B.E. or B.Tech. in Electrical Engineering/ Electronics Engineering/ Electronics & Communication Engineering/ Computer Science & Engineering, or Equivalent for IEC add Electrical and Electronics, Electronics & Instrumentation, M.Sc. Physics / Electronics.  |
|         |   | Opto-electronics and Optical Communications (Jointly run by the Department of Electrical Engineering & Physics)   | B.E. or B.Tech. in Electrical Engineering/ Electronics Engineering/ Electronics & Communication Engineering or M.Sc. (Physics).   |
| DLME01  | Mechanical Engineering  | Mechanical Design   | Aeronautical/ Auto-mobile/ Mechanical/ Production/ Manufacturing Science & Engineering.   |
|         |   | Industrial Engineering  | Any Engineering Discipline.   |
|         |   | Production Engineering  | Aeronautical/ Auto-mobile/ Industrial/ Mechanical/ Metallurgy/ Production/ Manufacturing Science & Engineering.   |
|         |   | Thermal Engineering   | Aeronautical/ Automobile/ Chemical Food Engineering Technology/ Mechanical Engineering/ Power Plant Engineering/ Engineering Physics.   |
| DLPH01  | Physics   | 1. Solid State Material<br>2. Applied Optics<br>3. Optoelectronics and Optical Communications. (Jointly run with Dept. of Physics and Electrical Engineering)   | M.Sc. Physics or B.Tech. / B.E. in Electrical Engineering/ Electronics & Communication, Engineering Physics, Mechanical Engineering.  |

| <b>Code</b> | <b>Department</b>   | <b>Fields of Specialization</b>                 | <b>Minimum Qualification</b>   |
|-------------|---|---|--|
| DLTX01      | Textile Technology  | Textile Engineering                             | Mechanical Engineering, Manufacturing Science & Engineering, Production Engineering, Textile Engineering/ Technology, Apparel Technology.  |
|             |   | Fiber Science & Technology                      | Biochemical Engineering/ Biotechnology, Chemical Engineering, Polymer and Rubber Technology, Textile Chemistry, Textile Engineering/ Technology, Material Science, M.Sc. Physics and M.Sc. Chemistry.            |
| DLTX02      |   | Textile Chemical Processing                     | Biochemical Engineering / Biotechnology, Chemical Engineering, Physics, Polymer and Rubber Technology, Textile Chemistry, Textile Engineering/ Technology, Materials Science, M.Sc. Physics and M.Sc. Chemistry. |
| DLTR01      | Industrial Tribology Machine Dynamics & Maintenance Engineering | Industrial Tribology & Maintenance Engineering  | Mechanical Engineering/ Automobile Engineering/ Marine Engineering/ Mining/ Production/ Manufacturing Science and Industrial Engineering.  |
| DLID01      | Design (SeNSE)_   | Master of Design (M. Des.) in Industrial Design | Bachelors in any branch of Engineering/ Architecture/ Design.  |

#### 4. Indian Institute of Technology Guwahati –GW

Relaxation of SC/ST/PD candidates: Eligibility criteria will be relaxed by 5% in percent marks or 0.5 point in CPI in all cases.

| Code   | Department                            | Fields of specialization                   | Minimum Qualification  |
|--------|---------------------------------------|--|--|
| GWCH01 | Chemical Engineering                  | Petroleum Refinery Engineering             | Bachelor Degree in Engineering / Technology in an appropriate area (having Mass Transfer, Heat Transfer, Fluid Mechanics, Thermodynamics, Reaction Engineering & Process Control as subjects in UG.) with minimum CPI of 6.5/10 or 60% or First Class.   |
| GWCH02 |                                       | Material Science & Technology              |  |
| GWCE01 |                                       | Structural Engineering                     | Bachelor's degree in Engineering/ Technology in an appropriate area with a minimum CPI of 6.5/10 or 60% marks or First Class.  |
| GWCE02 |                                       | Water Resources Engineering and Management |  |
| GWCE03 |                                       | Geo-technical Engineering                  |  |
| GWCE04 |                                       | Environmental Engineering                  |  |
| GWCE05 |                                       | Transportation Systems Engineering         |  |
| GWCE06 |                                       | Infrastructure Engineering & Management    |  |
| GWCE07 | Civil Engineering                     | Earth System Science and Engineering       | <p><b>A. Eligibility:</b><br/>For admission a candidate must satisfy one of the following criteria:</p> <ol style="list-style-type: none"> <li>1) Four year Bachelor's degree in Civil Engineering, Petroleum Engineering, Mining Engineering, Mineral Engineering, Geosciences Engineering, Agriculture Engineering, Engineering Physics (or equivalent), Engineering Mathematics (or equivalent) with a minimum CPI of 6.5 or 60% of marks or first class.</li> <li>2) M.Sc. degree in Geology (or equivalent), Geophysics (or equivalent), Physics including Soil Physics with a minimum of 6.5 or 60% of marks.</li> <li>3) M.Sc. degree in Mathematics, Chemistry and allied areas in natural sciences with a minimum CPI of 7.0 or 65% marks.</li> </ol> <p><b>B. Gate Paper for the eligibility criteria:</b></p> <ol style="list-style-type: none"> <li>1) Civil Engineering (CE),</li> <li>2) Geology and Geophysics (GG),</li> <li>3) Petroleum Engineering (PE),</li> <li>4) Mining Engineering (MN),</li> <li>5) Physics (PH),</li> <li>6) Chemistry (CY),</li> <li>7) Mathematics (MA),</li> <li>8) Agriculture Engineering (AG)</li> </ol> |
| GWCS01 | Computer Science & Engineering        | Computer Science & Engineering             | Bachelor's degree in Engineering/ Technology or equivalent in an appropriate area or M.Sc. (Computer Science/Information Technology) or MCA from a Recognized Institution with a minimum CPI of 6.5/10 or 60% marks  |
| GWEE01 | Electronics & Electrical Engineering. | Signal Processing                          | Bachelor's degree in Electrical/ Electronics Engineering or Equivalent or M.Sc. (Electronics) with a minimum CPI of 6.5 / 10 or 60% marks or First Class.  |
| GWEE02 |                                       | VLSI                                       |  |
| GWEE03 |                                       | Communication Engineering                  |  |
| GWEE04 |                                       | Power and Control                          |  |
| GWEE05 |                                       | RF and Photonics                           |  |
| GWME01 | Mechanical Engineering                | Fluids and Thermal Engineering             | Bachelor's degree in Engg/ Technology in an appropriate area with a minimum CPI of 6.5/10 or 60% marks or First Class.   |
| GWME02 |                                       | Machine Design                             |  |
| GWME03 |                                       | Computer Assisted Manufacturing            |  |
| GWME04 |                                       | Computational Mechanics                    |  |

## 5. Indian Institute of Technology Kanpur, Kanpur 208016 –KN

For eligibility to the M.Tech programme, one is required to have passed the qualifying examination, i.e., B.Tech./B.E. or M.Sc. In the appropriate area.

| Code   | Department  | Fields of specialization  | Minimum Qualification  |
|--------|---|---|--|
| KNAE01 | Aerospace Engineering   | Aero dynamics, Flight Mechanics and Control, Propulsion, Structures, Structural Dynamics & Aero elasticity.   | Degree in Aeronautical/ Aerospace, Mechanical, Civil, Chemical, or Naval Architecture Engineering, Electronics   |
| KNCH01 | Chemical Engineering  | Transport Phenomena, Chemical Reaction Engineering, Applied Kinetics and Catalysis, Thermodynamics, Membrane Separation Processes, Process Systems Development, Computer Aided Design, Optimization and Control, Petroleum Engineering, Polymer Science and Engineering, Environmental Pollution Control, Unconventional Energy Resources, Dynamics of Nonlinear Systems, Zeolite Catalysis, Colloids and Interface Engineering, CFD, Rheology, Non-Newtonian Fluid Mechanics, Nanotechnology, Numerical Methods Engineers, Mathematical Methods in Chemical Engineering, Modeling and Simulation in Chemical Engineering, Computational Biology and Bioinformatics, Modeling and Simulation of Separation Processes, Molecular Modeling, Tissue Engineering. | First class degree in Chemical Engineering, or Equivalent  |
| KNCE02 | Civil Engineering<br>(Code No. of the specialization to be indicated in the Data Sheet) | Geo-Informatics(Code14)   | B.Tech/ B.E. degree in Civil/ Mining/ Electrical/ Computer Science/ Electronics Engineering/ Information Technology/ Geoinformatics, or M.Sc. degree in Earth Science streams/ Geography/ Physics/ Mathematics/ Environmental Science. Candidate with M.Sc. degree must have mathematics as one of the subject at B.Sc. level.   |
| KNCE03 |   | Geotechnical Engineering(Code 08)   | B.Tech/ B.E. degree in Civil Engineering.  |
| KNCE04 |   | Structural Engineering(Code 17)   | B.Tech/ B.E. degree in Civil Engineering. Some Candidates with Bachelor's degree in Architecture, Building Construction and allied subject may also be considered.   |
| KNCE05 |   | Transportation Engineering(Code20)  | B.Tech/ B.E. degree in Civil/ Mechanical/ Aerospace Engineering.   |
| KNCE06 |   | Hydraulics and Water Resources Engineering(Code 11)   | B.Tech/B.E. degree in Civil/ Agriculture Engineering. The candidate must have taken at least one mathematics course at the undergraduate level.  |
| KNCE07 |   | Infrastructure Engineering and Management   | Bachelor's degree in Civil Engineering. Some candidates with Bachelor's degree in Building Construction and allied subjects may also be considered.  |
| KNCE08 |   | Environmental Engineering (EE)  | Bachelor's degree preferably in Civil Engineering / Chemical Engineering / Mechanical Engineering / Agricultural Engineering / Biotechnology or Master of Science in all areas. All candidates must have mathematics as a subject at least up to 10+2 level.   |
| KNCS01 |   | Computer Science & Engineering  | <b>Algorithms:</b> Graph-Theoretic, Algebra and Number Theoretic, Data Streaming, Game theoretic, Randomized.<br><b>Systems:</b> Computer Architecture, Cloud Computing, Cyber-Security, Embedded Systems, Internet Technologies, Mobile Computing, Programming Languages Implementation, Cyber Physical Systems, Robotics<br><b>Theory:</b> Complexity, Information Theoretic Complexity, Algebraic Computation, Computational arithmetic and Geometry, Quantum Computing, Computational Game Theory, Logic for CS, Cryptography.<br><b>Artificial Intelligence:</b> Computer Vision, Machine Learning, Natural Language Processing, Knowledge and Data Discovery, Data Mining, Graph Databases |
| KNME01 | Mechanical Engineering  | Solid Mechanics & Design, Fluid and Thermal Sciences, Manufacturing Science, Robotics and Automation.   | First class Bachelor's Degree in Mechanical Engineering<br><b>Note:</b> Candidates with first class Degree in Production Engineering are eligible for admission only to Manufacturing Science.   |

| Code   | Department   | Fields of specialization   | Minimum Qualification   |
|--------|--|--|---|
| KNMT01 | Materials Science and Engineering                                | Heat and Mass Transfer in Metallurgical System, Process Design and Development in Extractive Metallurgy, Optimization, Electrodeposition, Physical Metallurgy, Alloy Development Thermodynamics and Kinetics of Phase Transformations, Heat Treatment, Solidification, Mechanical Processing, Processing and Advanced Structural Steel, Processing-Steel Making, Structure-Property Relations, Nano structural Materials, Micro structural Characterization and Stereology Textures, Environmental Degradation of Materials, Corrosion, Powder Metallurgy, Structural Ceramics and Composite, Tribology, Welding, Magnetic Materials, Electromagnetic Materials, Thin Film Technology, Op to-Electronic Materials and Devices, Ferroelectric Ceramics, Electronic Materials, Organic semiconductor, Display Materials and Technologies, Bio-materials. Multiferroic Materials & Thin films, Clean energy, Photovoltaic and energy materials & devices.   | B.E/ B.Tech. degree in Metallurgical or Materials Engineering, Materials Science, Ceramic Engineering, Chemical Engineering, Mechanical Engineering or other Engineering disciplines must have Minimum 60% marks or a CPI of 6.0/10 in B.E./ B.Tech./ M.Sc. degree in Physics, Chemistry, Life Sciences, Materials Science, Nano science/ Nanotechnology or appropriate areas (with Mathematics at B.Sc level) must have Minimum 60% marks or a CPI of 6.0/10 in B.Sc. & Minimum 60% marks or a CPI of 6.0/10 in M.Sc |
| KNMS01 | Materials Science (Interdisciplinary programme)                  | Electronic and Optoelectronic Materials/Devices, Advanced ceramics and composites. Nanoscale materials, Nano tubes Materials for non- conventional Energy Solar cells, fuel cells, hydrogen storage, Materials for sensors, flexible electronics. Thin films. Magnetic materials. Organic Semiconductors. Piezoelectric and ferroelectric materials Optical spectroscopy Polymeric materials hydrogen Energy storage materials Materials synthesis   | B.Tech./ B.E./ B.Sc.(Engg.) degree in Ceramic, Chemical, Electrical, Electronics and Communication, Materials, Mechanical, or Metallurgical Engineering/Technology ;or any equivalent branch of engineering/ technology or Master's degree in Physics, Applied Physics, Chemistry, Materials Science with Mathematics and Physics or Chemistry at Bachelor's level.   |
| KNNE01 | Nuclear Engineering and Technology                               | Computerized Tomography, Reactor Dynamics, Transport Theory, Thermal Fluids Analysis, Instrumentation.   | Degree in any branch of Engineering.  |
| KNEE01 | Electrical Engineering (Codes mentioned against specializations) | Power Engineering  | Bachelor's Degree in Electrical or Electronics Engineering or equivalent.   |
| KNEE02 |  | including Power Systems, Power Electronics & High Voltage Engineering, Control & Automation  |   |
| KNEE03 |  | Information Systems  |   |
| KNEE04 |  | including Communications, Telecom Networking and Signal Processing), RF & Microwaves   |   |
| KNEE05 |  | Photonics  |   |
| KNEE06 |  | Microelectronics and VLSI  |   |
| KNIM01 | Industrial and Management Engineering                            | Services Management, Management of Technology, Innovation and Entrepreneurship, Marketing Management, Manufacturing, Operations and Supply Chain, Quantitative Methods & Decision Making, Organizational Behaviour, Human Resource Management, Business Economics, Infrastructure and Public Systems, Corporate Governance, Finance, Risk Management and Insurance, Financial Markets and Models, Enterprise Information and Knowledge Systems, Leadership, Ethics, Strategic Management, Business Policy, Energy Economics, Policy and Regulation etc, Intellectual Property Management, Sustainability, Project Management, Business Process Management, E- Governance, Information Systems, Change Management, Business Analysis. Operations Research; Operations Management and Big- Data.   | The applicant must have a Bachelors' degree in Engineering / Technology with marks/CPI not below the Specified Minimum.   |
| KNLS01 | Photonics Science & Engineering                                  | Laser spectroscopy, Bio-medical applications of lasers, Fem to second Pulse Shaping, Nonlinear Spectroscopy, Coherent Control, Multi photon Imaging, Quantum Computing, Quantum Optics, Imaging in Complex Media & Biological Tissues, Interferometric Tomography, Laser & Rainbow Schlieren, Imaging Growth of Protein Crystals, Quantum Cryptography, Nonlinear Fibre-Optics, Optical Fiber Communication, Electromagnetics and RF, Opto-Electronics, Semiconductor Device & Lasers, Millimetric & Microwave Circuits, Nonlinear Optics, Photonic Band Gap Structures, Laser Ranging, Laser imaging and cross-section, Flash and scanning laser applications, Digital Holography, Particle Image Velocimetry, Laser Schlieren, Experimental Stress Analysis, Smart Materials, Development and analysis of reconstruction algorithms for nonlinear tomography , Shape-based tomography, Numerical solutions to partial differential equations in electromagnetic, Subsurface imaging, Quantitative Phase Imaging, Optical Metrology, Applied Signal Processing, Fringe Analysis, Biophotonics, Fiber and integrated optics, Infrared and terahertz frequency sensors, Long-period gratings, Fiber optic Bragg gratings, Plasmonics and metamaterials. | Bachelor degree in any branch of Engineering. or Master's degree in Science with some exposure to Optics or Photonics.  |

## 6. Indian Institute of Technology Kharagpur -KH

In all cases the minimum eligibility is degree in engineering with a minimum of 60% marks or equivalent.

| Code   | Department   | Fields of specialization                            | Minimum Qualification   |
|--------|--|---|---|
| KHAE01 | Aerospace Engineering                                | Aerospace Engineering                               | Degree in Aerospace, Mechanical/ Civil Engineering/ Electrical Engineering with Specialization in Control System  |
| KHAG01 | Agricultural and Food Engineering                    | Farm Machinery & Power                              | Degree in Agricultural Engineering (All Specializations), and Degree in Mechanical Engineering  |
| KHAG02 |  | Land and Water Resources Engineering                | Degree in Agricultural Engineering (All Specializations)  |
| KHAG03 |  | Food Process Engineering                            | Degree in Agricultural Engineering (All specializations) Degree in Chemical/ Mechanical Engineering. Degree in Food Technology (4 year B.Tech), and Degree in Food Process Engineering (4 year B.Tech)  |
| KHAG05 |  | Aquacultural Engineering                            | For M.Tech in Aqua cultural Engineering, the minimum qualification is B.Tech, in Agricultural Engineering (All Specializations), Civil Engineering, Chemical Engineering, Mechanical Engineering and Naval Architecture. For Ph.D, the minimum qualification is M.Tech. in the above disciplines with working experience in Aquacultural Engineering, and Masters in Fisheries Science with NET Qualification |
| KHAG06 |  | Agricultural Systems & Management.                  | Degree in Agricultural Engineering (All specialization)   |
| KHBT01 |  | Biotechnology                                       | Biotechnology and Biochemical Engineering   |
| KHET01 | Centre for Educational Technology                    | Multimedia Information Processing                   | B.Tech in ECE, COMP, EE, INST, PH, MA   |
| KHCE01 | Civil Engineering                                    | Hydraulic and Water Resources Engineering.          | Degree in Civil Engineering   |
| KHCE02 |  | Transportation Engineering                          | Degree in Civil Engineering   |
| KHCE03 |  | Environmental Engineering & Management              | Degree in Civil Engineering/Chemical Engineering  |
| KHCE04 |  | Geotechnical Engineering                            | Degree in Civil Engineering   |
| KHCE05 |  | Structural Engineering                              | Degree in Civil Engineering   |
| KHCH01 | Chemical Engineering                                 | Chemical Engineering                                | Bachelor degree in Chemical Engineering / Chemical Technology.  |
| KHCR01 | Cryogenic Engineering Centre                         | Cryogenic Engineering                               | Degree in Chemical/ Mechanical/ Aerospace/ Electrical / Agriculture /Metallurgical and Materials Engineering, M.Sc. in Physics/Materials Science.   |
| KHCS01 | Computer Science and Engineering                     | Computer Science & Engineering.                     | Degree in Computer Science & Engineering or Information Technology  |
| KHEC02 | Electronics and Electrical Communication Engineering | Micro Electronics & VLSI Design.                    | Degree in Electronics and Electrical Communication Engineering  |
| KHEC03 |  | R F & Microwave Engineering                         |   |
| KHEC04 |  | Telecommunication System Engineering                |   |
| KHEC05 |  | Visual Information and Embedded Systems Engineering |   |
| KHEE01 | Electrical Engineering                               | Machine Drives and Power Electronics.               | Degree in Electrical (KHEE01,KHEE04), Electronics and Electronics Communication (KHEE02,KHEE04), Instrumentation (KHEE02, KHEE04) Engineering   |
| KHEE02 |  | Control System Engineering                          |   |
| KHEE03 |  | Power & Energy System                               |   |
| KHEE04 |  | Instrumentation and Signal Processing               |   |
| KHIM01 | Industrial and Systems Engineering                   | Industrial Engineering. & Management                | Degree in Aerospace Engineering, Agricultural Engineering, Chemical Engg., Civil Engineering, Computer Science & Engg., Electrical Engineering, Electronics & Communication Engineering, Information Technology, Instrumentation Engineering, Industrial Engg., Mechanical Engineering, Manufacturing Engineering, Metallurgical Engg., Mining Engineering,   |



| Code   | Department   | Fields of specialization                | Minimum Qualification  |
|--------|--|---|--|
|        |  |   | Naval Architecture & Production Engineering  |
| KHMA01 | Mathematics  | Computer Science and Data Processing.   | M.Sc. degree in Mathematics, Physics or Statistics. B.Tech in Electrical Engineering & Electrical Communication & Engineering  |
| KHME01 | Mechanical Engineering   | Manufacturing Science and Engineering   | Degree in Mechanical (all specializations) Aerospace (KHME02, KHME03), Energy (KHME02), Metallurgical (KHME01), Production (KHME01) Engineering  |
| KHME02 |  | Thermal Science and Engineering         |  |
| KHME03 |  | Mechanical Systems Design               |  |
| KHMN01 | Mining Engineering   | Mining Engineering                      | B.E/ B.Tech. Degree in Mining Engineering, Civil Engineering, Mechanical Engineering, Petroleum Engineering, Mineral Processing, Mining Machinery. MSc Tech (Applied Geology and Geophysics) MSc Geology and Geoinformatics  |
| KHMS01 | Materials Science  | Materials Science and Engineering.      | B.Tech/B.E Degree in Chemical Engineering/Technology, Ceramic and Glass Technology, Materials Technology, Plastic and /or Rubber Technology, Polymer Science and Technology with 60% marks minimum.<br>M.Sc. in Physics, Chemistry, Material Science, Polymer Chemistry, Electronic Science with 60% marks minimum.  |
| KHMT01 | Metallurgical and Materials Engineering                                | Metallurgical and Materials Engineering | Degree in Metallurgical, Chemical, or Mechanical Engineering or Production Engineering or Manufacturing Science and Engineering or in Glass and Ceramic or Materials Science/Technology  |
| KHOE01 | Ocean Engineering & Naval Architecture                                 | Ocean Engineering & Naval Architecture  | Degree in Aerospace, Civil, Marine Engineering, Mechanical, Production, Ocean Engineering, Naval Architecture, Ship-building technology or equivalent.   |
| KHPH01 | Physics  | Solid State Technology                  | M.Sc. (Physics/Applied Physics/Solid State Physics), Bachelor in Engineering Physics/Polymer Engineering, M.Sc. (Polymer Physics/Polymer Science), M.Sc. (Electronic Science/Materials Science/Chemistry with Mathematics at the B.Sc. level), M.Sc. (Applied Optics), Bachelor in Electronics Engineering, /Electronics and Electrical.   |
| KHRT01 | Rubber Technology  | Rubber Technology                       | Degree in Chemical, Materials, Plastics and/or Rubber, Polymer or Textile Technology, Mechanical or Production Engineering or Master in Chemistry, Applied Chemistry.  |
| KHID01 | Ranbir and Chitra Gupta School of Infrastructure Design and Management | Infrastructure Design and Management    | B.Tech. in Civil, Electrical, Mechanical or B.Arch./ B.Plan.   |
| KHEN01 | School of Energy Science & Engineering                                 | Energy Science and Engineering          | Degree in Electrical Engineering, Mechanical Engineering or Chemical Engineering.  |
| KHEV01 | Centre for Oceans, Rivers, Atmosphere and Land Sciences                | Earth System Science & Technology       | B.E./B.Tech. or equivalent in Aerospace Engineering, Agricultural Engineering, Embedded Controls and Software, Civil Engineering, Naval Architecture/ Marine Engineering, Mechanical Engineering.<br>M. Sc. with Mathematics both at +2 and B. Sc. Level in Earth Sciences/Geological Sciences, Environmental Engineering, Geology/ Geophysics/ Applied Geology/ Applied Geophysics, Mathematics/ Applied Mathematics, Physics/ Applied Physics/ Solid State Physics |
| KHAT01 | Advanced Technology Development Centre                                 | Embedded Systems and Software           | B.E./B.Tech. or equivalent / M.Sc. with Mathematics at +2 level/ M. Sc. with Mathematics both at +2 and B. Sc. Level/  |

| Code                         | Department                       | Fields of specialization        | Minimum Qualification   |
|------------------------------|----------------------------------|---------------------------------|---|
|                              |                                  |                                 | in Computer Science and Engineering, Electronics and Communication Engineering, Electrical Engineering, Instrumentation   |
| KHWR01                       | School of Water Resources        | Water Engineering & Management  | B.E./ B.Tech. or equivalent in Agricultural Engineering/ Civil Engineering/ Environmental & Chemical Engineering/ Mining Engineering.   |
| KHMB01                       | Medical Science and Technology   | Medical Imaging and Informatics | Bachelor's degree in Engineering/Technology/Architecture/M.Sc or equivalent professional degrees (AMIE etc.)  |
| KHRE01                       | Reliability Engineering Centre   | Reliability Engineering         | Degree in Electrical Engineering, Electronics & Communication Engineering, Civil Engineering, Chemical Engineering, Computer Science, Industrial Engineering and Management, Mechanical Engineering, Aerospace Engineering, Production Engineering, Instrumentation Engineering, Manufacturing Engineering, Information Technology, Mining Engineering and allied branches. |
| <b>M.C.P. Degree Program</b> |                                  |                                 |   |
| KHAR01                       | Architecture & Regional Planning | Master of City Planning         | Degree in Architecture (B.Arch.) or Civil Engineering, (B.Tech./BE) or Bachelor of Planning (B.Planning). Students with MA/M.Sc. degree in Geography or Economics or Sociology are also eligible for admission, after clearing NET  |

## 7. Indian Institute of Technology Madras-MD

The minimum eligibility is a graduate degree with first class or minimum of 60% aggregate marks (or equivalent grade point average) in the corresponding or specified branch.

| Code   | Department                     | Fields of specialization  | Minimum Qualification<br>(The candidate should possess the following degree in B.E./B.Tech or equivalent)   |
|--------|--------------------------------|---|---|
| MDAE01 | Aerospace Engineering          | Aerodynamics, Propulsion, Structures  | Aerospace Engineering, Automobile Engg., Chemical Engg., Civil Engg., Computer Science & Engineering, Electronics & Communication Engg., Electrical & Electronics Engg., Energy Engineering, Instrumentation, Mechanical Engineering, Manufacturing Engg., Metallurgical Engg., Naval Architecture, Production Engineering. |
| MDAM01 | Applied Mechanics              | Computational and Experimental Mechanics  | Aerospace Engineering, Chemical Engineering, Civil Engineering, Energy Engineering, Mechanical Engineering, Metallurgical Engineering, Naval Architecture.  |
| MDAM02 |                                | Biomedical Engineering  | Biomedical Engineering, Electrical and Electronics Engineering, ECE, Civil, Mechanical, E&I Engineering, Computer Science Engineering / Computer Science  |
| MDCH01 | Chemical Engineering           | Transport and Reaction Engineering, Systems and Control, Biochemical Engineering, Environmental Engineering, Materials and processes                                | B.E./B.Tech or equivalent degree in Chemical Engineering, Biochemical Engineering, or Environmental Engineering   |
| MDCE01 | Civil Engineering              | Building Technology & Construction Management   | Architecture(B.Arch.),Civil Engineering   |
| MDCE02 |                                | Environmental Engineering   | Agricultural Engineering, Biotechnology, Chemical, Engineering, Environmental & Civil Engineering, M.Sc .in Life science.   |
| MDCE03 |                                | Geotechnical Engineering  | Civil Engineering   |
| MDCE04 |                                | Hydraulic & Water Resources Engineering   | Agricultural Engineering, Environmental and Civil Engineering   |
| MDCE05 |                                | Structural Engineering  | Civil Engineering   |
| MDCE06 |                                | Transportation Engineering.   | Architecture (B.Arch.), Civil Engineering   |
| MDCS01 | Computer Science & Engineering | Computer Science & Engineering  | B.E./ B.Tech (CSE, CS, or IT) or MCA with a prev. B.Sc. degree or M.Sc (CS)   |
| MDEE01 | Electrical Engineering         | Communications, Networks, Signal processing, Speech & Image Processing Information Theory   | Electronics & Communication Engg.   |
| MDEE02 |                                | Power Systems & Power Electronics   | Electronics & Communication Engineering, Electrical & Electronics Engineering, Instrumentation Engineering.   |
| MDEE03 |                                | Micro Electronics & VLSI Design   | Electronics & Communication Engg.   |
| MDEE04 |                                | Control and Instrumentation   | Electrical and Electronics Engineering, Electronics and Communication Engg., Control and Instrumentation Engineering.   |
| MDEE05 |                                | Microelectronics  | B.E/ B.Tech. /M.Sc., in Electrical & Communication Engg./ Instrumentation Engg. / Electrical & Electronics Engineering / Physics who qualify with GATE subject EE/EC/IN/PH.   |
| MDEE06 |                                | Integrated Circuits and Systems   | Electronics & Communication Engg., Electrical & Electronics Engineering, Instrumentation Engineering.   |
| Code   | Department                     | Fields of specialization  | Minimum Qualification<br>(The candidate should possess the following degree in B.E./B.Tech or equivalent)   |
| MDME01 | Mechanical Engineering         | Thermal Engineering Stream: (Combustion & Propulsion, Heat Transfer & Thermal Power, I.C. Engines & Gas Turbines, Refrigeration & Air Conditioning, Turbo machines) | Aeronautical/ Aerospace Engineering, Automobile Engineering, Chemical Engineering, Energy Engineering, Mechanical Engineering, Marine Engineering, Petroleum Engineering  |
| MDME02 |                                | Design Stream: (Mechanical Design)  | Aeronautical/ Aerospace Engineering, Automobile Engineering, Mechanical Engineering, Production Engineering   |
| MDME03 |                                | Manufacturing Engineering Stream: (Manufacturing and Precision  | Aerospace Engineering, Automobile   |

|        |                                       |   |   |
|--------|---------------------------------------|---|---|
|        |                                       | Engineering)                                    | Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering, Industrial Engineering, Instrumentation, Mechanical Engg, Manufacturing Engg., Machine Tool Engineering, Naval Architecture, Production & Industrial Engineering, Production Engineering  |
| MDMM01 | Metallurgical & Materials Engineering | Metallurgical & Materials Engineering           | BE/ B.Tech or equivalent in Biotechnology, Chemical Engineering, Ceramics Manufacturing Engineering, Materials Technology, Mechanical Engineering, Metallurgical Engineering, Nanotechnology, Production Engineering or other appropriate branch of Engineering/Technology. Science postgraduates (M.Sc. or equivalent) in Physics, Chemistry, Materials Science, Nanoscience, Nanotechnology or other appropriate branch of Science with exceptional merit and research or industrial experience may be considered |
| MDOE01 | Ocean Engineering                     | Ocean Engineering                               | Civil Engineering, Naval Architecture, Mechanical Engineering, Marine Engineering, Aerospace Engineering OR M. Sc. in Oceanography  |
| MDOE02 |                                       | Petroleum Engineering                           | Chemical Engineering, Civil Engineering, Marine Engineering, Mechanical Engineering, Naval Architecture, Petroleum Engineering Or any other appropriate engineering discipline OR M.Sc in Physics, Mathematics, Statistics Oceanography, Geology and Geophysics   |
| MDMA01 | Mathematics                           | Industrial Mathematics and Scientific Computing | M.Sc. in Mathematics or Physics or BE/ B.Tech or equivalent in Aerospace Engineering, Chemical Engineering, Civil Engineering, Computer Science & Engineering, Electronics & Communication Engineering, Electrical & Electronics Engineering, Mechanical Engineering, Metallurgical Engineering, Naval Architecture   |
| MDPH01 | Physics                               | Functional Materials & Nanotechnology           | M.Sc. Physics/ Applied Physics, M.Sc. Material Science, B.Tech or equivalent in Electronics and Communications Engineering, Electrical and Electronics Engineering, Metallurgical and Materials Engineering, Materials Science Engineering, Engineering Physics, Nanotechnology   |

## 8. Indian Institute of Technology Roorkee – RR

Minimum qualification for candidates of general category seeking admission to the PG programme must have at least 60% marks or 6.00 CGPA on a 10 point scale at qualifying degree level. For SC/ST/PD category candidates this percentage is 55% or 5.50 CGPA on a 10 point scale. The percentage of marks will be considered as aggregate awarded in qualifying degree examination.

- (a) Candidates must have a minimum of two years of full-time work experience till the last date submission of application form. For a candidate employed in an educational Institution, it should be recognized by AICTE.

OR

Candidates having AMIE/AMIS/AMICHe/AMIIM/Grad IETE, who possess B.Sc. or Diploma in engineering and have at least 3 years teaching experience at the submission of last date of application acquired in relevant field, are also eligible to apply for admission to M.Tech courses.

- (b) Candidates should submit the sponsorship certificate and copy of appointment letter with a proof of regular/permanent teacher along with the application, duly signed by the Head of the Institution/Organization.

| Code   | Department                                | Fields of specialization                     | Minimum Qualification   |
|--------|---|--|---|
| RRHR01 | Hydro and Renewable Energy                | Alternate Hydro Energy Systems               | Bachelor's Degree in Civil /Electrical/ Instrumentation Engineering/ Mechanical / Industrial / Chemical/ Electronics / Computer/ Agricultural / Environmental Engineering or its equivalent.  |
| RRHR02 |   | Environmental Management of Rivers and Lakes | Bachelor's Degree in Civil / Electrical/ Mechanical/ Industrial /Chemical/ Agricultural/ Environmental Engineering/ Biotechnology/ Architecture / Town Planning or its equivalent.<br>OR<br>Master Degree in Science in any subject with Mathematics at graduation level. |
| RRAR01 | Architecture and Planning                 | M.Arch.                                      | B.Arch or its equivalent.   |
| RRAR02 |   | M.U.R.P.                                     | B.Arch or its equivalent. or Bachelor Degree in Civil Engineering/ B. Planning  |
| RRCH01 | Chemical Engineering                      | Chemical Engineering                         | B.Tech./B.E. in Chemical Engineering/ Chemical Technology   |
| RRCE01 | Civil Engineering                         | Environmental Engg.                          | Bachelor's degree in Civil Engg./ Chemical Engg. /Environmental Engg. or its equivalent.  |
| RRCE02 |   | Geomatics Engg.                              | Bachelor's degree in Civil Engg./Electronics Engg./ Electrical Engg. / Computer Science / Information Technology/Marine Engg./Mining Engg. /Environmental Engg./Agricultural Engg./Communication Engg./ Architecture or its equivalent.                                   |
| RRCE03 |   | Geotechnical Engg.                           | Bachelor's degree in Civil Engg./ Infrastructure/ Construction Engineering or its equivalent.   |
| RRCE04 |   | Hydraulic Engg.                              | Bachelor's degree in Civil Engg. or its equivalent.   |
| RRCE05 |   | Structural Engg.                             | Bachelor's degree in Civil Engg. or its equivalent.   |
| RRCE06 |   | Transportation Engg.                         | Bachelor's degree in Civil Engg. or its equivalent.   |
| RRCE06 |   | Soil Dynamics.                               | Bachelor's degree in Civil Engineering / Structural Engineering or its equivalent.  |
| RREQ01 | Earthquake Engineering                    | Structural Dynamics                          | Bachelor's degree in Civil Engineering / Structural Engineering or its equivalent.  |
| RREQ02 |   | Seismic Vulnerability and Risk Assessment    | Bachelor's degree in Civil Engineering/Structural Engineering or its equivalent.  |
| RREQ03 |   |  |   |
| RREE01 | Electrical Engineering                    | Instrumentation & Signal Processing          | Bachelor's Degree in Electrical Engineering / Electronics & Communication / Instrumentation Engineering or its equivalent.  |
| RREE02 |   | Systems & Control                            | Bachelor Degree in Electrical Engineering or Electronics & Communication / Instrumentation Engineering, or its equivalent.  |
| RREE03 |   | Power System Engineering                     | Bachelor Degree in Electrical Engineering or its equivalent.  |
| RREE04 |   | Electric Drives & Power Electronics          | Bachelor's Degree in Electrical Engineering or its equivalent.  |
| RREC01 | Electronics and Communication Engineering | Communication Systems                        | Bachelor's Degree in Electronics & Communication Engineering or its equivalent  |
| RREC02 |   | RF & Microwave Engineering                   | Bachelor's degree in Electronics and Communication Engineering or its equivalent  |
| RREC03 |   | Microelectronics & VLSI                      | M.Sc. (Physics), M.Sc. (Electronics), Bachelor's degree in Electronics & Communication Engineering or its equivalent.   |
| RRCS01 | Computer Science & Engineering            | Computer Science & Engineering               | BE/B.Tech. degree in Computer Science & Engineering/ Information Technology.  |

|        |   |  |  |
|--------|---|--|--|
| RRHY01 | Hydrology   | Hydrology                                  | Bachelor's degree in Civil / Agricultural Engineering / Hydrology or its equivalent.<br><br>M.Sc. / M.Tech (Master's) degree in Chemistry / Geology/ Geophysics / Applied Geology / Applied-Geophysics /Physics/Meteorology/Geography/Atmospheric Physics / Environmental Science with Mathematics in B.Sc. (Bachelor's) course as one of the subjects.<br>OR<br>M.Sc. (Master's) degree in Statistics with Physics or Mathematics at B.Sc. (Bachelor's) level OR M.Sc. (Master's) degree in Mathematics with Physics in B.Sc. (Bachelor's) level or its equivalent.                             |
| RRME01 | Mechanical and Industrial Engineering             | Machine Design Engineering                 | Bachelor's degree in Mechanical / Industrial / Production Engineering or its equivalent.   |
| RRME02 |   | Production & Industrial System Engineering | Bachelor's degree in Mechanical / Industrial / Production Engineering or its equivalent.   |
| RRME03 |   | Thermal Engineering                        | Bachelor's degree in Mechanical/ Industrial / Production Engineering or its equivalent   |
| RRME04 |   | Welding Engineering                        | Bachelor's degree in Mechanical/ Industrial/ Production Engineering or its equivalent.   |
| RRME05 |   | CAD,CAM & Robotics                         | Bachelor's degree in Mechanical / Industrial / Production Engineering or its equivalent.   |
| RRMT01 | Metallurgical Engineering & Materials Engineering | Industrial Metallurgy                      | B.Tech./B.E. in Metallurgy/Materials Engineering/ Mechanical Engineering/Production Engg/ Production and Industrial Engg /Ceramic Engineering  |
| RRMT02 |   | Materials Engineering                      | B.Tech./B.E. in Metallurgy/Materials Engineering, Mechanical Engineering/Production Engineering/ Production and Industrial Engg /Ceramic Engineering/Polymer Engg./Nanotechnology; or M.Sc. in Physics/Chemistry /Material Science/Polymer / Nanotechnology with Mathematics course at B.Sc. level   |
| RRNT01 | Nanotechnology                                    | Nanotechnology                             | B.Tech. (Met. & Mat. Engg./Mech. Engg./ E&C/Electronics/ Chemical Engg./ Biotechnology/ Civil/ Biochemical Engineering/ Biomedical Engineering/ Bioengineering/ Polymer Engg/ Polymer Technology/ Pharmaceutical Technology/Industrial Biotechnology/ Nanotechnology) or equivalent; M.Sc. (Physics/ Chemistry/ Biotechnology/ Life Science/ nanotechnology), with Maths at 10+2 or higher level.  |
| RRPH01 | Physics   | Solid State Electronic Materials           | B.Tech. Engineering Physics / M.Sc. (Physics) / Bachelor's degree in Electrical / Electronics / Metallurgical Engineering, or its equivalent.  |
| RRPH02 |   | Photonics                                  | M.Sc. (Physics/ Electronics/ Applied Physics/ Photonics/ Engineering Physics), B.Tech. (Engineering Physics/ Electronics/ Communication/ Electrical/ Instrumentation/ Materials/ Metallurgy/ Nanotechnology)   |
| RRPP01 | Paper Technology Saharanpur Campus                | Pulp & Paper                               | Bachelor's degree in Pulp & Paper Engg. / Chemical Engg./ Mechanical Engg. / Polymer Engg./ Cellulose Technology/ Biotechnology or its equivalent.<br>Note: The two years post B.Sc. diploma awarded by the IPT/DPT plus a minimum of two years relevant experience in Industry/ Research Organization will be considered equivalent to a B.Tech/ B.E. degree.   |
| RRPP02 |   | Packaging Technology                       | M.Sc. in Chemistry (PCM at B.Sc. level)/ Polymer Science (PCM at B.Sc. level)/ or B.Tech. in Pulp and Paper Technology/ Biotechnology/ Chemical Engg./Chemical Technology/ Polymer Engg. / Process Engg. / Mechanical Engg./ Production Engg./ Packaging Technology/ Printing Technology / Textile Technology/ PG Diploma in Packaging / Biochemical Engineering. Industry sponsored candidate with aforesaid academic qualifications along with two years experience in Paper / Polymer / Packaging Technology. Additional Requirement: GATE qualified except for industry sponsored candidate. |
| RRWR01 | Water Resources Development & Management          | Irrigation Water Management                | Bachelor's degree in Civil Engineering or its equivalent /Agricultural Engineering or M.Sc. Agriculture in Agronomy, Soil Science, Agrometeorology, with Mathematics as one of the papers at the level of B.Sc. / B.Sc. Agriculture.   |
| RRWR02 |   | Water Resources Development                | Bachelor's degree in Civil / Electrical / Mechanical / Electronics & Telecommunication Engineering, or its equivalent.   |
| RRDM01 | Disaster Mitigation and Management                | Disaster Mitigation and Management         | B.Tech. (Civil, Structural, Mechanical, Industrial, Chemical Engineering and Biotechnology /Computer Science & Engineering or equivalent.; B.Arch. & B. Planning, M.Tech. in Geological Technology and Geophysical Technology or its equivalent, M.B.A.; M.C.A.;   |

|        |  |                        |  |
|--------|--|------------------------|--|
|        |  |                        | M.Sc. in Physics/ Geophysics/ Geology/ Mathematics, Computer Science, Environmental Sciences, or its equivalent (with Maths in B.Sc.).   |
| RRTS01 | Centre for Transportation Systems (CTRANS) | Infrastructure Systems | B.E./B.Tech. (Civil/ Mechanical & Industrial/ Electrical/ Chemical Engineering/Electronics & Communication Engg/ Computer Science and Information Technology/ B.Arch./ B.Planning/B.Design or its equivalent.  |
| RRBT01 | Biotechnology                              | Bioprocess Engineering | B.E./B.Tech. or its equivalent degree in Chemical Engineering/ Biochemical Engineering/ Bioprocess Engineering/ Chemical Technology/ Food Technology/ Agricultural Engineering/ Biomedical Engineering/ Bioengineering/ Polymer Engineering/ Polymer Technology/ Plastic Technology/ Paper Technology/ Ceramic Technology/ Petrochemical Engineering/ Textile Engineering/ Biotechnology or in allied field with Maths in 10+2 level |

## 9. Indian Institute of Technology (Banaras Hindu University) Varanasi - VN

| Code   | Department                    | Fields of specialization  | Minimum Qualification   |
|--------|-------------------------------|---|---|
| VNMT01 | Metallurgical Engineering     | Extractive Metallurgy, Alloy Technology, Metals and Materials Processing  | Degree in Metallurgical Engineering   |
| VNMI01 | Mining Engineering            | Mine Planning, Mine Environment, Rock Mechanics   | Degree in Mining Engineering  |
| VNCH01 | Chemical Engineering          | Energy, Environment, Transfer Processes   | Degree in Chemical Engineering  |
| VNCE01 | Civil Engineering             | Structural Engineering, Environmental Engineering, Geotechnical Engineering, Hydraulics & Water Resource Engineering, Transportation Engineering, Geoinformatics Engineering, Engineering Geology | Degree in Civil Engineering   |
| VNEE01 | Electrical Engineering        | Electrical Machines and Drives, Power Systems, Control Systems and Power Electronics  | Degree in Electrical Engineering  |
| VNEE02 |                               | Systems Engineering( Inter disciplinary)  | Degree in Electrical, Electronics, Computer Engineering   |
| VNME01 | Mechanical Engineering        | Machine Design, Thermal & Fluids, Production Engineering  | Degree in Mechanical Engineering.   |
| VNME02 |                               | Industrial Management   | Degree in any branch of Engineering   |
| VNEC01 | Electronics Engineering       | Microwave Engineering, Digital Techniques & Instrumentation, Microelectronics, and Communication Systems Engineering.   | Degree in Electronics or Electrical Engineering   |
| VNBM01 | Biomedical Engineering        | Biomedical Engineering  | Degree in Biomedical/ Ceramic/ Chemical/ Computer/ Electrical/ Electronics (Telecommunication/ Instrumentation/ Control)/ Mechanic /Metallurgical Engineering/ OR M. Sc. Degree in Physics  |
| VNMS01 | Material Science & Technology | Material Science & Technology related current areas   | Degree in Chemical Sciences, Material Science and Physical Sciences, Ceramic/Chemical Engineering/Electrical/Civil/Electronics/Polymer/Plastic Technology/Materials Technology/ Nanotechnology/Metallurgical Engineering /Dentistry/ Orthopedics/ENT/Rasshastra   |
| VNBC01 | Bio Chemical Engineering      | Bio Chemical Engineering  | B. Pharm./ B.Tech. or an equivalent degree in Biochemical/Biotechnology/ Chemical/ Food Engg./ OR M.Sc. degree in Biochemistry/ Bio- Technology/ Microbiology or in Chemistry with specialization in Biochemistry or Physical Chemistry.  |
| VNCM01 | Ceramic Engineering           | Ceramic Engineering   | B.Tech. or an equivalent degree in Ceramic/ Civil/ Electronics/Electrical/ Mechanical/ Metallurgical Engg./ Chemical Engg. And Technology/Materials Science & Technology/ Silicate Technology or M.Sc. Physics (with special papers in Solid State/ Electronics) or<br><br>Electronics or Chemistry (with special papers in Physical/ Inorganic/Solid State Chemistry) provided the candidate has passed B.Sc./ B.Sc.(Hons.) Examination with Physics, Chemistry and Mathematics. |



**10 Anna University, Chennai- AU**

| Code   | Department                                | Fields of specialization  | Minimum Qualification   |
|--|---|---|---|
| <b>AC Tech Campus, Chennai-25</b>                        |   |   |   |
| AUCH01   | Chemical Engineering                      | Petroleum Refining and Petrochemicals, Ceramic Technology, Chemical Engineering, Polymer Science and Engineering, Environment Science and Technology  | Degree in Engineering/Tech .in the appropriate branch   |
| AULT01   | Leather Technology                        | Leather Technology, Footwear Science & Engineering.   |   |
| AUCM01   | Ceramic Technology                        | Ceramic Technology  |   |
| AUAT01   | Applied Science and Technology            | Industrial Safety and Hazards Management  |   |
| AUTX01   | Textile Technology                        | Textile Technology  |   |
| AUBT01   | Bio-Technology                            | Bio-Technology, Computational Biology, Nano Science and Technology, Food Technology, Bio-Pharmaceutical Technology  |   |
| AURT01   | Rubber and Plastics Technology            | Rubber Technology   |   |
| <b>College of Engineering, Guindy, Chennai-25</b>        |   |   |   |
| AUCE01   | Civil Engineering                         | Environmental Engineering, Structural Engineering, Hydrology and Water Resources Engineering, Construction Engineering and Management, Irrigation Water Management, Urban Engineering, Remote Sensing and Geomatics, Soil Mechanics and Foundation Engineering, Integrated Water Resources Management, Transportation Engineering, Environmental Management, Coastal Management | Degree in the appropriate branch in Engineering with preferably 55% or more marks in the aggregate or its equivalent in the Grade system. |
| AUEE01   | Electrical Engineering                    | Power Systems Engineering, Control and Instrumentation, Power Electronics and Drives, High Voltage Engineering, Electronics Engineering, Instrumentation Engineering, Power Engineering and Management, Embedded System Technologies  | Degree in the appropriate branch in Engineering with preferably 55% or more marks in the aggregate or its equivalent in the Grade system. |
| AUIC01   | Information and Communication Engineering | Optical Communication, Medical Electronics, Applied Electronics, Communication Systems, Laser and Electro Optical Engineering, Computer Science & Engineering, Software Engineering, VLSI Design, Computer Science and Engineering(Specialization in Big Data Analytics), Systems Engineering and Operations Research, Multimedia Technology, Information Technology            | Degree in the appropriate branch in Engineering with preferably 55% or more marks in the aggregate or its equivalent in the Grade system  |
| AUME01   | Mechanical Engineering                    | Internal Combustion Engineering, Thermal Engineering (with Specialization in Refrigeration and Air-conditioning), Energy Engineering, Engineering Design, Solar Energy, Computer Aided Design, Product Design and Development, Manufacturing Systems Management.  | Degree in the appropriate branch in Engineering with preferably 55% or more marks in the aggregate or its equivalent in the Grade system  |
| <b>Madras Institute of Technology Campus, Chennai-44</b> |   |   |   |
| AUAE01   | Aerospace Engineering                     | Aeronautical Engineering, Aerospace Technology, Avionics  | Degree in Aeronautical, Mechanical, Mechatronics  |
| AUAU01   | Automobile Engineering                    | Automobile Engineering  | Degree in Automobile, Mechanical, Production  |
| AUEC01   | Electronics Engineering                   | Communication and Networking, Wireless Technologies, VLSI Design and Embedded Systems   | Degree in ECE/EEE/E&I/CSE/IT/ Electronics/ Instrumentation  |
| AUIN01   | Instrumentation Engineering               | Instrumentation Engineering   | Degree in Instrumentation and control, Electronics and Instrumentation(E&I), Control and Instrumentation, Instrumentation Engineering     |
| AUPT01   | Production Technology                     | Production and Manufacturing Engineering, Green Manufacturing, Manufacturing Engineering, Mechatronics  | Degree in Mechanical, Production, Manufacturing, Metallurgy, Industrial Automobile, Mechatronics.   |

**11. Indian Institute of Engineering Science and Technology, Shibpur – BE**  
(Formerly Bengal Engineering and Science University, Shibpur)

| Code   | Department                                  | Fields of specialization   | Minimum Qualification                                     |
|--------|---|--|---|
| BECE01 | Civil Engineering                           | Structural Engineering and Concrete Technology Soil Mechanics and Foundation Engineering, Water Resources Engineering, Environmental Engineering, Highway and Traffic Engineering. | Degree in the relevant field in Engineering Or equivalent |
| BEEE01 | Electrical Engineering                      | Power Systems, Electrical Machines, Control Systems, Power Electronics & Drives.   | Degree in the relevant field in Engineering Or equivalent |
| BEME01 | Mechanical Engineering                      | Machine Design, Heat Power Engineering, Production Engineering   | Degree in the relevant field in Engineering Or equivalent |
| BEMI01 | Mining Engineering                          | Mining Engineering   | Degree in the relevant field in Engineering Or equivalent |
| BEAE01 | Aerospace Engineering and Applied Mechanics | Mechanics of Solids, Mechanics of Fluids   | Degree in the relevant field in Engineering Or equivalent |
| BEIT01 | Information Technology                      | Information and Communication Engineering  | Degree in the relevant field in Engineering Or equivalent |
| BEMT01 | Metallurgy and Materials Engineering        | Physical Metallurgy.   | Degree in the relevant field in Engineering Or equivalent |

**12. BMS College of Engineering, Bengaluru - BS**

| Code   | Department             | Fields of specialization | Minimum Qualification   |
|--------|------------------------|--------------------------|---|
| BSME01 | Mechanical Engineering | Machine Design           | Bachelor Degree holder in Mechanical Engineering/ Industrial & Production Engineering. Automobile Engineering/ Manufacturing Engineering/ Industrial Engineering. & Management or equivalent degree with not less than 55% marks in the qualifying degree, However in case of candidate belongs SC/ST & category 1, minimum marks shall not be less than 45%. |

**13. Indian Institute of Technology (Indian School of Mines), Dhanbad – IS**

The eligibility for M.Tech Programme is 1st class or equivalent in bachelor degree.

| Code   | Department                 | Fields of specialization   | Minimum Qualification  |
|--------|----------------------------|--|--|
| ISFM01 | Fuel & Mineral Engineering | Mineral Engineering Fuel Engineering   | Degree in Chemical/ Mechanical/ Metallurgical / Mining/ Mineral Engineering. |
| ISMI01 | Mining Engineering         | Mining Engineering<br>Opencast Mining<br>Geomatics<br>Tunneling & Underground Space Technology | Degree in Mining Engineering   |

**14. Jadavpur University, Kolkata – JU**

| Code   | Department                                    | Fields of specialization  | Minimum Qualification  |
|--------|---|---------------------------|--|
| JUEE01 | Electrical Engineering                        | Electrical Machines       | Degree or equivalent in Engineering in the appropriate branch with at least 60% marks. |
| JUEE02 |   | Control Systems           |  |
| JUEE03 |   | Power Systems             |  |
| JUEE04 |   | High Voltage              |  |
| JUEE05 |   | Electrical Measurements   |  |
| JUEC01 | Electronics and Telecommunication Engineering | Communication Engineering | Degree or equivalent in Engineering in the appropriate branch with at least 60% marks. |
| JUEC02 |   | Computer Engineering      |  |
| JUEC03 |   | Control Engineering       |  |
| JUEC04 |   | Electronic Devices        |  |
| JUEC05 |   | Microwave Engineering     |  |
| JUME01 | Mechanical Engineering                        | Applied Mechanics         | Degree or equivalent in Engineering in the   |

| Code   | Department             | Fields of specialization  | Minimum Qualification  |
|--------|------------------------|---|--|
| JUME02 |                        | Heat Power Engineering  | appropriate branch with at least 60% marks.  |
| JUME03 |                        | Fluid and Hydraulic Engineering   |  |
| JUME04 |                        | Production Engineering  |  |
| JUME05 |                        | Machine Design.   |  |
| JUPE01 | Production Engineering | Production Technology: CAD/CAM, Robotics, Tribology, Flexible Manufacturing, Computer Integrated Manufacturing, Ergonomics, Designing for Production. | Degree in Production/ Industrial/ Mechanical/ Manufacturing Engineering with at least 60% marks. |
| JUPE02 |                        | Production Management Quantitative Management, Terotechnology, Reliability, Behavioral Science, Simulation Theory and Applications.                   |  |

### 15. Malnad College of Engineering, Hassan - 573 201 ML

The minimum eligibility is a graduate degree with not less than 50% of the marks in the aggregate of all the years of degree examination (cumulative sum of secured marks of all the semester/years divided by the sum of Max. marks). However in case of candidates belonging to SC/ST candidate, marks shall not be less than 45%.

| Code   | Department        | Fields of specialization                              | Minimum Qualification   |
|--------|-------------------|---|---|
| MLCE01 | Civil Engineering | Computer Aided Analysis & Design of Structures (CADS) | Bachelor's Degree in Civil Engineering/ Construction Technology & Management. |

### 16. Motilal Nehru National Institute of Technology, Allahabad-MN

| Code   | Department                       | Fields of specialization                 | Minimum Qualification  |
|--------|----------------------------------|--|--|
| MNAM01 | Applied Mechanics                | Engineering Mechanics and Design         | Eligibility Criteria to M.Tech admission will be 6.5 CPI/CGPA (on a 10-point scale) or 60% (first class) for OC/OB/OM whereas 6.0 CPI/CGPA (on a 10- point scale) or 55% in case of SC/ST candidates in the qualifying degree. <b>(Duration: 2 Year (4 Semesters))</b> |
|        |                                  | Material Science and Engineering         |  |
|        |                                  | Fluids Engineering                       |  |
|        |                                  | Biomedical Engineering                   |  |
|        |                                  | Biotechnology                            |  |
| MNCE01 | Civil Engineering                | Environmental Engineering                |  |
|        |                                  | Geotechnical Engineering                 |  |
|        |                                  | Structural Engineering                   |  |
|        |                                  | Transportation Engineering               |  |
| MNCS01 | Computer Science and Engineering | Computer Science & Engineering           |  |
|        |                                  | Information Security                     |  |
|        |                                  | Software Engineering                     |  |
| MNEE01 | Electrical Engineering           | Control & Instrumentation/ Power Systems |  |
|        |                                  | Power Electronics& ASIC Design.          |  |
| MNEC01 | Electronics Engineering          | Digital Systems                          |  |
|        |                                  | Microelectronics & VLSI Design           |  |
| MNME01 | Mechanical Engineering           | Design Engineering                       |  |
|        |                                  | Production Engineering                   |  |
|        |                                  | Computer Aided Design and Manufacturing  |  |
|        |                                  | Product Design& Development              |  |
| MNGI01 | GIS Cell                         | GIS & Remote Sensing                     |  |

### 17. National Institute of Industrial Engineering, Mumbai – NI

| Code   | Department                     | Fields of specialization | Minimum Qualification  |
|--------|--------------------------------|--------------------------|--|
| NIIE01 | Industrial Engineering (PGDIE) | Industrial Engineering   | Bachelor's Degree with 60% aggregate marks in Engineering/Technology (relax able by 5% in case of SC/ST candidates) and a minimum of two years' experience in the concerned field. |

## 18. National Institute of Technology Calicut - CL

| Code   | Department                                | Fields of specialization                               | Minimum Qualification   |
|--------|---|--|---|
| CLCE01 | Civil Engineering                         | Structural Engineering                                 | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in aggregate in Civil Engineering.   |
| CLCE02 |   | Traffic and Transportation Planning                    |   |
| CLCE03 |   | Offshore Structures                                    |   |
| CLCE04 |   | Environmental Geotechnology                            |   |
| CLCS01 | Computer Science and Engineering          | Computer Science & Engineering.                        | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in aggregate in Computer Science & Engineering/ Information Technology/ First class MCA (60% marks or 6.5/10* CGPA)  |
| CLCS02 |   | Computer Science & Engineering. (Information Security) |   |
| CLEE01 | Electrical Engineering                    | Instrumentation and Control Systems                    | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electrical Engineering / Electrical and Electronics Engineering/ Instrumentation and Control Systems/ Applied Electronics and Instrumentation.  |
| CLEE02 |   | Power Systems  | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electrical Engineering / Electrical and Electronics Engineering   |
| CLEE03 |   | Power Electronics                                      |   |
| CLEE04 |   | Industrial Power & Automation                          | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electrical Engineering / Electrical and Electronics Engineering/ Instrumentation and Control Systems/ Applied Electronics and Instrumentation/ Electronics and Instrumentation/ Instrumentation.  |
| CLEE05 |   | High Voltage Engineering                               | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electrical Engineering / Electrical and Electronics Engineering   |
| CLEC01 | Electronics and Communication Engineering | Electronics Design and Technology                      | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electronics and Communication/ Electronics Engineering/ Electrical & Electronics/ Applied Electronics and Instrumentation.  |
| CLEC02 |   | Microelectronics and VLSI Design                       |   |
| CLEC03 |   | Telecommunication                                      | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electronics and Communication/ Electronics Engineering/ Telecommunication Engineering   |
|        |   | Signal Processing                                      | Bachelor's Degree with 60% marks/CGPA of 6.5/10* in Electronics and Communication/ Electronics Engineering  |
| CLME01 | Mechanical Engineering                    | Industrial Engineering and Management                  | Bachelor's degree with 60% marks/CGPA of 6.5/10* in Mechanical Engineering/Aerospace Engineering/ Agricultural Engineering/ Automobile Engineering/ Material Science & Engineering/ Manufacturing Engineering/ Mechatronics/ Metallurgical Engineering/ Industrial Metallurgy/ Production Engineering/ Production & Industrial Engineering/ Production & Management/Textile Engineering & Fiber Science / Industrial Engineering. |
| CLME02 |   | Thermal Sciences                                       | Bachelor's degree with 60% marks/CGPA of 6.5/10* in Mechanical Engineering/Aerospace/ Aeronautical/ Automobile/ Energy/ Manufacturing/ Nuclear/ Production Engineering.   |
| CLME03 |   | Manufacturing Technology                               | Bachelor's degree with 60% marks/CGPA of 6.5/10* in Mechanical Engineering/ Automobile/ Manufacturing/ Material Science & Engineering/ Mechatronics/ Metallurgical/ Production Engineering/ Production & Industrial Engineering/ Production & Management.   |
| CLME04 |   | Energy Engineering & Management                        | Bachelor's degree with 60% marks/CGPA of 6.5/10* in Mechanical Engineering/ Chemical Engineering/ Aeronautical/ Aerospace/ Automobile/ Energy Engineering/ Nuclear Engineering/ Renewable Energy.   |
| CLME05 |   | Materials & Science & Technology                       | Bachelor's degree with 60% marks/CGPA of 6.5/10* in Mechanical Engineering/ Automobile/Material Science & Engineering/ Engineering Physics/ Manufacturing/ Mechatronics/ Metallurgical/ Industrial Metallurgy/ Nano Technology/ Production/ Production & Industrial Engineering/ Production & Management.   |

(\*) For SC/ST Candidates 55% marks or 6.0/10 CGPA will be sufficient for all specializations.

## 19. National Institute of Technology Karnataka, Surathkal – SK

Admission to M.Tech. Programme shall be open to Indian nationals who have passed the prescribed qualifying examination with a Cumulative Grade Point Average (CGPA) of at least 6.5 in the 0-10 scale grading system, OR not less than 60% marks in the aggregate (taking into account the marks scored in all the subjects of all the public/university examinations conducted during the entire prescribed period for the degree programme). However, this prescribed minimum shall be a CGPA of 6.0 OR 55% marks in the aggregate for SC/ST/PD candidates.

| Code   | Department                              | Fields of specialization                             | Minimum Qualification  |
|--------|---|--|--|
| SKAM01 | Applied Mechanics<br>Hydraulics         | Marine Structures                                    | i) B.E./B.Tech.in Civil Engineering/B.Sc (Civil Engineering)/ B.E. Ocean Engineering<br>ii) AMIE in Civil Engineering  |
| SKAM02 |   | Water Resources Engineering & Management             | i) BE./BTech in Civil Engineering in (Civil Engineering)<br>ii) AMIE in Civil Engineering/ B.E. Water Management   |
| SKAM03 |   | Remote Sensing & Geographic Information Systems      | i) B.E./B.Tech. B.Sc.(Engineering in Civil, Mining, Environmental, Engineering, Transportation Engineering, Geo Informatics.<br>ii) AMIE in Civil Engineering  |
| SKCH01 | Chemical Engineering                    | Chemical Plant Design                                | i) B.E./ B.Tech in Chemical Engineering/Polymer Technology/ Ceramic and Cement Technology/Bio-Chemical Engineering/ Biotechnology/Petrochemical Engineering.<br>ii) AMIE (Chemical Engineering)/ A.M.I.I.Chemical Engineering  |
| SKCH02 |   | Industrial Pollution Control                         | i) B.E./ B.Tech in Chemical Engineering/Mechanical / Mining Engineering/ Polymer Technology/ Ceramic and Cement Technology/ Environmental Engineering/ Bio-Chemical Engineering/ Biotechnology/ Petrochemical Engineering.<br>ii) AMIE (Chemical Engineering)/A.M.I.I.Chemical Engineering   |
| SKCH03 |   | Industrial Biotechnology                             | i) B.E./B.Tech. in Biotechnology/ Chemical Engineering/ Biochemical Engineering.<br>ii) M.Sc. in Biotechnology   |
| SKCE01 | Civil Engineering                       | Structural Engineering                               | i) B.E./B.Tech./B.Sc. (Engineering) in Civil Engineering of any Recognized Indian Universities<br>ii) AMIE in Civil Engineering.   |
| SKCE02 |   | Geotechnical Engineering                             | i) B.E./B.Tech./B.Sc. (Engineering) in Civil Engineering of any Recognized Indian Universities<br>ii) AMIE in Civil Engineering.   |
| SKCE03 |   | Environmental Engineering                            | i) B.E./B.Tech./B.Sc. (Engineering) in Civil Engineering /Chemical/ Mechanical /Metallurgical/ Mining Engineering/ Environmental Engineering/Biochemical Engineering/ Biotechnology<br>ii) AMIE in Civil Engineering/Chemical/Metallurgical/ Mechanical/Mining Engineering<br>iii) M.Sc. in Industrial Chemistry/ Applied Chemistry/ Bio-Chemistry/ Biotechnology  |
| SKCE04 |   | Transportation Engineering                           | i) B.E./B.Tech./B.Sc.(Engineering) in Civil/Engineering/ Transportation Engineering of any Recognized Indian Universities<br>ii) AMIE in Civil Eng.  |
| SKCE05 |   | Construction Technology & Management                 | i) B.E./B.Tech./B.Sc.(Engineering) in Civil or Mining Engineering of any recognized Indian University.<br>ii) B.E./B.Tech./B.Sc.(Engineering) in Transportation Engineering/ Environmental Engineering/ Structural Engineering/ Construction Technology& Management of any recognized Indian University.<br>iii) AMIE in Civil/ Mining Engineering<br>iv) Bachelors' Degree in Architecture (B.Arch./B.E. or B.Tech. in Architecture of any recognized Indian University). |
| SKCS01 | Computer Engineering                    | Computer Science & Engineering                       | B.E/B.Tech. in Computer Science/ Engineering, Computer Science & Engineering, Information Science & Engineering /Technology, Information Science, Information Engineering & Information Technology   |
| SKCS02 |   | Computer Science & Engineering- Information Security | B.E/B.Tech. in Computer Science/ Engineering, Computer Science & Engineering, Information Science & Engineering /Technology, Information Science, Information Engineering & Information Technology   |
| SKEE01 | Electrical & Electronics Engineering    | Power and Energy Systems                             | i) B.E./ B.Tech./B.Sc (Engineering) in Electrical Engineering or Electrical & Electronics Engineering<br>ii) AMIE in Electrical Engineering  |
| SKEC01 | Electronics & Communication Engineering | VLSI Design  | i) B.E./B.Tech./B.Sc. (Engineering) in E&C, Electronics & Telecommunications/ Instrumentation Technology/ E&E/ Computer Science & Engineering/ Electronics & Control Engg.<br>ii) AMIETE (Electronics & Telecommunication)   |

| Code   | Department                            | Fields of specialization  | Minimum Qualification  |
|--------|---------------------------------------|---------------------------|--|
| SKEC02 |                                       | Communication Engineering | i) B.E./B.Tech./ B.Sc.(Engineering) in E&C, Electronics & Telecommunications.<br>ii) AMIETE (Electronics & Telecommunication).   |
| SKMC01 | Mathematical & Computational Science  | Computational Mathematics | B.E./B.Tech./B.Sc.(Engineering) any branch; M.Sc. (Mathematics), M.Sc. (Statistics), M.Sc. (Physics), MCA (Master of Computer Applications), M.Sc.(Computer Science/ Information Science/Information Technology, Electronics)  |
| SKME01 | Mechanical Engineering                | Thermal Engineering       | B.E./B.Tech./AMIE) in Mechanical Engineering/ Automobile Engineering/ Aerospace Engg./Energy System Engg./Marine Technology/Power Plant Engg./Renewable Energy Engg.   |
| SKME02 |                                       | Manufacturing Engineering | B.E./B.Tech./AMIE) in Mechanical Engineering/ Industrial Engineering/Industrial & Production Engineering/ Industrial Engineering and Management/ Manufacturing Engineering/ Production Engineering Mechatronics/ Aeronautical Engineering,Auto-Mobile Engineering/Metallurgy/Tool Engg.  |
| SKME03 |                                       | Mechatronics Engineering  | B.E./B.Tech./ AMIE in Mechanical Engineering/ Electronics & Communication Engineering/ Electrical & Electronics/ Mechatronics Industrial Production /Production Engineering/ Industrial Engineering/ /Instrumentation/ Aeronautical Engineering/ Automobile Engineering/ Manufacturing Engg.   |
| SKME04 |                                       | Design & Precision Engg.  | B.E./B.Tech./AMIE in Mechanical Engg./Automobile Engg./Manufacturing Engg./Aeronautical Engg./ Aerospace Engg.   |
| SKMT01 | Metallurgical & Materials Engineering | Process Metallurgy        | i) B.E./ B.Tech./ B.Sc. (Engineering) in Metallurgical Engineering /Industrial & Production Engineering/ Metallurgy/ Metallurgical & Materials Engineering Engineering/Metallurgical Engineering & Materials Science/Metallurgical & Materials Technology/Mechanical Engineering/ Chemical Engineering/Production Engineering.<br>ii) AMIE in Metallurgical Engineering /Mechanical Engineering (by Examination)<br>iii) Associate Member of the Indian Institute of Metals (by Examination) – A.M.I.I.M.<br>iv) M.Sc. Chemistry (Physical/ Analytical/ Industrial/ Applied M.Sc. (Materials Science)/ Master Degree in Mineral Beneficiation/ Mineral Processing/Ore Dressing |
| SKMT02 |                                       | Materials Engineering     | i) B.E./ B.Tech./ B.Sc.(Engineering) in Metallurgy/ Mechanical Engineering/Chemical Engineering/ Industrial Production/ Polymer Technology/ Ceramic and Cement Technology/ Manufacturing Engineering / Industrial & Production Engineering/ Metallurgical & Materials Engineering/ Metallurgical Engineering/Metallurgical Engineering & Materials Science/Polymer Science & Technology/ Polymer Science & Rubber Technology/Metallurgy & Materials Technology /Production Engineering.<br>ii) AMIE in Mechanical/Metallurgical Engineering by Examination.<br>iii) AMIIM (by Examination) of Indian Institute of Metals.<br>iv) M.Sc. (Materials Science/Physics (Solid State |
| SKMT03 |                                       | Nanotechnology            | i) M.Sc. in Physics, Chemistry, Material Science, Bio-Technology.<br>ii) B.Tech/AMIE in Civil, Mechanical, E&E, E&C, Instrumentation, Chemical, Metallurgy, Mining Engg., Metallurgical & Materials Engineering.<br>iii) Associate member of the Indian Institute of Metals (by examination) AMIM.   |

## 20. National Institute of Technology Rourkela – RK

Minimum eligibility is B.E./ B. Tech./ M. Sc. or equivalent degree in the discipline as mentioned below with not less than 60% marks or 6.5 CGPA in the qualifying examination.

| Code   | Department                              | Fields of specialization         | Minimum Qualification  |
|--------|---|----------------------------------|--|
| RKCM01 | Ceramic Engineering                     | Ceramic Engineering              | B.E. or B. Tech. (Ceramic/ Metallurgy/ Chemical) or M.Sc. (Physics/ Chemistry/ Material Science) with not less than 60% marks or 6.5 CGPA in the qualifying examination. |
| RKCH01 | Chemical Engineering                    | Chemical Engineering             | B.E. or B. Tech. in Chemical/ Biochemical/Biotechnology with not less than 60% marks or 6.5 CGPA in the qualifying examination.  |
| RKCE01 | Civil Engineering                       | Structural Engineering;          | Bachelor of Engineering in Civil Engineering with 60% marks in aggregate.  |
| RKCE02 |   | Soil Mechanics & Foundation Engg |  |
| RKCE03 |   | Transformation Engineering       |  |
| RKCS01 | Computer Science & Engineering          | Computer Science                 | BE, B. Tech. in Computer Science & Engineering / [Electronics / Electrical Engineering / IT or MCA or M.Sc. (Computer Science)]  |
| RKCS02 |   | Information Security             |  |
| RKEE01 | Electrical Engineering                  | Power Control & Drives           | B.E. or B. Tech. In Electrical Engineering.  |
| RKEC01 | Electronics & Communication Engineering | Telematics & Signal Processing   | B.E. or B. Tech. in Electronics  |
| RKEC02 |   | VLSI Design & Embedded System    |  |
| RKME01 | Mechanical Engineering                  | Production Engineering           | Bachelor Degree in Mechanical Engineering Or equivalent with 60% marks in aggregate.   |
| RKME02 |   | Machine Design Analysis          |  |
| RKME03 |   | Thermal Engineering              |  |

## 21. National Institute of Technology Tiruchirappalli –TR

Minimum 60% marks in the qualifying examination for General Category and 55% for SC/ST candidates.

| Code   | Department                           | Fields of Specialization            | Minimum Qualification   |
|--------|--------------------------------------|-------------------------------------|---|
| TRCH01 | Chemical Engineering                 | Chemical Engineering                | Bachelor's Degree in Chemical Engineering/Petrochemical Engineering/ Chemical and Electrochemical Engineering   |
| TRCH02 |                                      | Process control and Instrumentation | Bachelor's Degree in Chemical Engineering/Petrochemical Engineering/ Chemical and Electrochemical Engineering/ Electrical & Instrumentation Engineering/Electrical & Electronics Engineering  |
| TRCE01 | Civil Engineering                    | Transportation Engg. & Management.  | Bachelor's Degree in Civil/Highway/Transportation/ Engineering/ Transportation Urban Planning/ Civil & Transpiration Engineering/ Civil & Transpiration Technology  |
| TRCE02 |                                      | Structural Engineering.             | Bachelor's Degree in Civil Engineering, Structural Engineering, Civil Engineering & Planning, Civil Technology.   |
| TRCS01 | Computer Science & Engineering       | Computer Science                    | Bachelor's Degree in Computer & Communication Engineering/Computer Engineering/ Computer Engineering & Application/Computer Networking/ Computer Science/ Computer Science and Engineering/ Computer Science & Information Technology/ Computer Science & Systems Engineering/Computer Science & Technology/Computer Technology/Computing in Computing/Computing in Multimedia/Computer in Software/Electrical & Computer Engineering/Information Engineering/ Information Science/Information Science & Engineering/Information Science & Technology/Information Technology/ Information Technology & Engineering/Electronics & Communication Engineering/ Electronics & Computer Engineering/Electronics & Electrical Communication Engineering/ Electronics & Information Systems/ Electronics & Telecom Engineering/ Electronics & Telematics Engineering |
| TREE01 | Electrical & Electronics Engineering | Power Systems                       | Electrical & Instrumentation Engineering/Electrical & Electronics Engineering/Electrical & Power Engineering/ Electrical and Computer Engineering/ Electrical and Electronics ( Power Systems)/ Electrical & Mechanical Engineering/ Electrical Engineering/ Electrical Engineering   |

|        |                           |                                       |  |
|--------|---------------------------|---------------------------------------|--|
|        |                           |                                       | & Industrial Control/ Electrical Engineering (Power)/Electrical Instrumentation & Control Engineering/ Electrical Power Engineering/ Control & Electrical Engineering / Electronics & Electrical Communication Engineering/ Electronics & Electrical Engineering/ Electronics & Power Engineering/ Power Control & Drives/ Power Electronics Power Engineering/ Power Electronics & Instrumentation Engineering  |
| TRME01 | Mechanical Engineering    | Thermal Power Engineering             | Mechanical Engineering   |
| TRME02 |                           | Industrial Safety Engineering         | Mechanical Engineering /Production Engineering /Chemical Engineering / Electrical and Electronics Engineering / Civil Engineering/Electrical Engineering   |
| TRMT01 | Metallurgical Engineering | Welding Engineering                   | Industrial Metallurgy, Materials Science & Engineering/ Material Science & Metallurgical Engineering/ Material Science & Technology/ Material & Metallurgical Engineering/ Metallurgical & Materials Engineering/ Metallurgical & Materials Technology/ Metallurgical Engineering & Materials Science Metallurgy, Metallurgy & Materials Technology/ Mechanical Engineering/ Aerospace Engineering/ Automobile Engineering/ Automotive Technology, Electrical and Mechanical Engineering, Industrial and Production Engineering/ Manufacturing Engineering/ Manufacturing Engineering & Automation / Manufacturing Process/ Manufacturing Science & Engineering, Manufacturing Technology/ Mechanical & Automation Engineering/ Mechanical Engineering(Design & Manufacturing)/ Mechanical Engineering (Repair and Maintenance)/ Mechanical Engineering Automobile/ Nuclear Engineering/ Nuclear Science & Technology/ Production & Industrial Engineering/ Production Engineering/ Production Engineering & Management/ Ship building Engineering   |
| TRMT02 |                           | Materials Science and Engineering     | Material Science & Engineering/ Industrial Metallurgy/ Material Science & Metallurgical Engineering/ Material Science & Technology/ Material & Metallurgical Engineering/ Metallurgical & Materials Engineering/ Metallurgical & Materials Technology/ Metallurgical Engineering/ Metallurgical Engineering & Material Science Metallurgy/ Metallurgy & Material Technology/ Mechanical Engineering/ Production Engineering/ Chemical Engineering (Plastic & Polymer)/ Ceramic Technology/ Ceramic Engineering & Technology/ Ceramic Engineering/ Ceramic and Glass Technology/ Cement and Ceramic Technology/ Mechatronics, Nano Technology/ Nuclear Engineering/ Nuclear Science & Technology/ Polymer Technology/ Polymer Science & Technology/ Polymer Science & Chemical Technology/ Polymer Engineering & Technology/ Polymer Engineering/ Plastics Technology/ Plastics Engineering/ Plastic & Industrial Engineering/ Rubber Technology/ Solar & Alternate Energy/ Surface Coating Technology/ Industrial and Production Engineering/ Industrial Engineering.<br><br><b>M.Se. degree in Physics/ Chemistry/ Material Science/ Applied Science/ Applied Physics/ Applied Chemistry/ Engineering Physics</b> |
| TRPE01 | Production Engineering    | Manufacturing Technology              | Automobile Engineering/ Industrial & Production Engineering/ Industrial Manufacture Engineering/ Manufacturing Engineering/ Manufacturing Engineering & Automation/ Manufacturing Process/ Manufacturing Process & Automation Engineering/Manufacturing Science & Engineering/Manufacturing Technology/ Mechanical & Automation Engineering/ Mechanical Engineering/ Mechanical Engineering (Design & Mechatronics)/ Production & Industrial Engineering/ Production Engineering/ Production Engineering & Management  |
| TRPE02 |                           | Industrial Engineering and Management | Automobile Engineering/ Automotive Engineering/ Automotive Technology/ Industrial & Management Engineering / Industrial & Production Engineering / Industrial Engineering/ Industrial Management / Industrial Engineering & Management/ Industrial Manufacturing Engineering/ Manufacturing Engineering / Manufacturing Engineering & Automation/ Manufacturing Process/ Manufacturing Process & Automation Engineering Manufacturing Science & Engineering/ Manufacturing Technology/ Mechanical & Automation Engineering/ Mechanical Engineering/ Mechatronics/ Production & Industrial Engineering/ Production Engineering/ Production Engineering & Management.  |



## 22. National Institute of Technology Warangal - WR

Minimum Eligibility: First class Bachelor degree in Engineering with a minimum of 60% marks in aggregate. In case of SC/ST candidates, the minimum aggregate marks is 55%.

| Code   | Department                              | Fields of specialization                                      | Minimum Qualification  |
|--------|---|---|--|
| WRCE01 | Civil Engineering                       | Engineering Structures  | B.E./B.Tech. in Civil Engineering or equivalent  |
| WRCE02 |   | Geotechnical Engineering                                      | B.E./B.Tech. in Civil Engineering or equivalent  |
| WRCE03 |   | Transportation Engineering                                    | B.E./B.Tech. in Civil Engineering/ B.Arch. or equivalent   |
| WRCE04 |   | Water Resources Engineering                                   | B.E./B.Tech. in Civil Engineering/Agricultural Engineering or equivalent                         |
| WRCE05 |   | Remote Sensing & GIS  | B.E./B.Tech. in Civil Engineering/ B.Arch. or equivalent   |
| WRCE06 |   | Environmental Engineering                                     | B.E./B.Tech. in Civil Engineering or M.Tech. Engg., Bio-Technology, Chemical Engg. Or equivalent |
| WRCE07 |   | Construction Technology & Management                          | B.E./B.Tech. in Civil Engineering/ Construction Technology Management or equivalent.             |
| WREC01 | Electronics & Communication Engineering | Electronic Instrumentation.                                   | B.E./B.Tech. in ECE, E&I, EEE.   |
| WREC02 |   | VLSI System Design.   | B.E./B.Tech. in ECE, CSE.  |
| WREE01 | Electrical Engineering                  | Power Systems Engineering<br>Electronics & Drives Engineering | B.E./B.Tech. in Electrical/IEEEE.  |
| WRME01 | Mechanical Engineering                  | Thermal Engineering.  | B.E./B.Tech. in Mechanical   |
|        |   | Manufacturing Systems Engineering                             | B.E./B.Tech. in Mechanical/Production/ Mechatronics/Industrial Engineering.                      |

## 23. PSG College of Technology, Coimbatore - PS

| Code   | Department                           | Fields of specialization          | Minimum Qualification   |
|--------|--------------------------------------|-----------------------------------|---|
| PSCS01 | Computer Science & Engineering       | Computer Science & Engg.          | BE/B.Tech – ECE/IT/CSE/ Software Engineering.<br>(OR)   |
|        |                                      | Software Engineering              | MSc (2 Years/5 Years) Software/ IT/CS/(OR) MCA  |
| PSEE01 | Electrical & Electronics Engineering | Applied Electronics               | BE/B.Tech - EEE/ECE/EI/IC/Instrumentation/ Electronics/Bio- Medical/ Bio Medical Instrumentation/ Medical Electronics                       |
| PSEE02 |                                      | Control Systems                   | BE/B.Tech – EE/ECE/EI/Instrumentation/ IC/ Electronics  |
| PSEE03 |                                      | Power Electronics & Drives        | BE/B.Tech - EEE/ECE/EI/Instrumentation/IC/ Electronics  |
| PSME01 | Mechanical Engineering               | Engineering Design                | BE/ B.Tech – Mechanical/ Production/ Manufacturing/ Auto/ Industrial Engg./ Mechatronics/ Marine.   |
| PSME02 |                                      | Industrial Engineering.           | BE/ B.Tech - Industrial/ Mechanical/ Production/Mining/ Manufacturing/ Printing/ Aeronautical/ MSE/ Metallurgical/ Mechatronics/Automobile. |
| PSME03 |                                      | Computer Integrated Manufacturing | BE/ B.Tech - Mechanical/ Production/ Auto/ Manufacturing/ Metallurgy/ Industrial Engg./ CIM/ Mechtronics/ Material Science                  |
| PSME04 |                                      | Energy Engineering                | BE/ B.Tech – Mechanical/ Chemical Engineering/ Energy & Environmental/Mechanical Energy.  |
| PSPE01 | Production Engineering               | Production Engineering            | BE/B.Tech – Mechanical/Production/Auto/ Manufacturing/ Metallurgy/ Industrial Engg. /Mechatronics/ Material Science.                        |

| Code   | Department         | Fields of specialization                      | Minimum Qualification  |
|--------|--------------------|---|--|
| PSPE02 |                    | Product Design & Commerce                     | BE/B.Tech - Mechanical/Production/Auto/ Manufacturing/ Industrial Engg./ Mechatronics                            |
| PSPE03 |                    | Virtual Prototyping and Digital Manufacturing | BE/B.Tech - Mechanical/Production/Auto/ Manufacturing/ Industrial Engg./ Mechatronics / Civil / Computer Science |
| PSTX01 | Textile Technology | Textile Technology                            | BE/B.Tech – Textile Technology / Textile Chemistry/Apparel Technology/Fashion Technology (Textile Technology)    |

#### 24. Shri G.S. Institute of Technology and Science, Indore – GS

| Code   | Department             | Fields of specialization                                   | Minimum Qualification                            |
|--------|------------------------|--|--|
| GSEE01 | Electrical Engineering | Power Electronics, Digital Techniques and Instrumentation. | Degree in the appropriate branch of Engineering. |

#### 25. JSS Science and Technology University, University (formerly Sri Jayachamarajendra College of Engineering) Mysore - SJ

Minimum eligibility is a Bachelor's Degree with minimum of 50% marks in Aggregate fall the years of the degree Examinations (or equivalent grade Point average) in the relevant field.

| Code   | Department                    | Fields of specialization                        | Minimum Qualification  |
|--------|-------------------------------|---|--|
| SJCE01 | Civil Engineering             | Industrial Structures                           | Bachelor's Degree in Civil Engineering./ Construction Technology & Management  |
| SJIL01 | Electronics and Communication | Industrial Electronics                          | Bachelor's Degree in Electronics & Communication/ Electronics and Instrumentation Engineering / Instrumentation Technology/ Electronics and Telecommunications / Telecommunication / Electrical & Electronics/ Bio- Medical Engineering / Medical Electronics.   |
| SJIN01 | Instrumentation Technology    | Bio-medical Signal Processing & Instrumentation | Bachelor's Degree in Computer Science and Engineering/ Information Science & Engineering / Telecommunication Engineering / Bio-Medical Engineering/ Medical Electronics/ Instrumentation Engineering / Electronics and Communication Engineering/ Electronics Instrumentation Engineering/ Electrical and Electronics Engineering. |
| SJME01 | Mechanical Engineering        | Maintenance Engineering                         | Bachelor's Degree in Mechanical Engineering/ Industrial Production Engineering / Automobile Engineering / Industrial & Manufacturing Engineering / Industrial Engineering & Management / Mining Engineering.   |

#### 26. University Visveswaraya College of Engineering, Bengaluru - UV

| Code   | Department        | Fields of specialization   | Minimum Qualification                               |
|--------|-------------------|--|---|
| UVCE01 | Civil Engineering | Structural Engineering, Geotechnical Engineering, Environmental Engineering, Construction Technology; Highway Engineering, Water Resources Engineering, Pre-stressed Concrete. & Earthquake Engineering. | Degree in Civil Engineering with minimum 60% marks. |

#### 27. Visveswaraya National Institute of Technology, Nagpur - VR

| Code   | Department             | Fields of specialization  | Minimum Qualification   |
|--------|------------------------|---------------------------|---|
| VRCE01 | Civil Engineering      | Environmental Engineering | B.E./ B.Tech. in Civil Engineering./ Environmental Engineering.   |
| VREE01 | Electrical Engineering | Power System              | B.E. / B.Tech. Degree in Electrical Engineering / Power Electronics / Electronics and Power / Electrical and Electronics Engineering. |

**QUALITY IMPROVEMENT PROGRAMME**  
**Application for M.Tech. Degree Programme 2020-21**  
**Copy to Principal Coordinator QIP**

|  |  |                              |
|--|--|------------------------------|
|  | <b>Specimen Application and NOT to be<br/>used for filling application</b> | Affix Stamp<br>Size<br>Photo |
| <b>1. Application Number</b> :   |  |                              |
| <b>2. Name</b> :   |  |                              |
| <b>3. Designation</b> :  |  |                              |
| <b>4. Department</b> :   |  |                              |
| <b>5. College Address</b> :  |  |                              |
| <b>6. Contact Address</b> :  |  |                              |
| <b>7. Phone (Office)</b> :   | <b>8. Mobile :</b>   |                              |
| <b>9. Phone (Residence)</b> :  | <b>10. Email :</b>   |                              |
| <b>11. Date of Birth</b> :   | <b>12. Gender:</b>   |                              |
| <b>13. Category</b> :  | <b>14. Married:</b>  | <b>Yes/No</b>                |
| <b>15. Physically Disabled</b> :   | <b>Yes/No</b>  |                              |
| <b>16. UG Degree</b> :   |  |                              |
| Year :   | University :   |                              |
| Class/Division :   | Overall Percentage/CGPA :  |                              |
| <b>17. PG Degree</b> :   |  |                              |
| Year :   | University :   |                              |
| Class/Division :   | Overall Percentage/CGPA :  |                              |
| <b>18. Teaching Experience as on September 30, 2019 (Monday)</b> :             |  |                              |
| <b>19. Industrial / Research Experience as on September 30, 2019 (Monday):</b> |  |                              |
| <b>20. Number of QIP/ISTE/AICTE/IMPACT Courses Attended</b>                    |  |                              |
| a) 4 to 7 days Duration:   | b) Two weeks Duration:   | c) More than 2 weeks:        |
| <b>21. Number of Research Papers:</b>  |  |                              |
| a) In Refereed journals:   | b) In Conference Proceedings:  |                              |

**22. Institutions and Departments to which Admissions are sought**

|              | Name of the Institute | Choice of Specialization |               |
|--------------|-----------------------|--------------------------|---------------|
|              |                       | First Choice             | Second Choice |
| Preference 1 |                       |                          |               |
| Preference 2 |                       |                          |               |
| Preference 3 |                       |                          |               |

**23. Academic Data (Examination Passed B.E/B.Tech/B.Arch/B.Sc (Engg)/Equivalent)**

| Semester/Year | University | Year | Specialization | Class | Marks Obtained | Percentage | GPA |
|---------------|------------|------|----------------|-------|----------------|------------|-----|
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |

**24. Academic Data (Examination Passed M.E/M.Tech. or Equivalent)**

| Semester/Year | University | Year | Specialization | Class | Marks Obtained | Percentage | GPA |
|---------------|------------|------|----------------|-------|----------------|------------|-----|
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |
|               |            |      |                |       |                |            |     |

**25. Any other Qualification**

| Degree | University | Year | Specialization | Class | Marks Obtained | Percentage | GPA |
|--------|------------|------|----------------|-------|----------------|------------|-----|
|        |            |      |                |       |                |            |     |

**26. Teaching Experience at Degree Level as on September 30, 2019 (Monday)**

| Sl.No | Name and Address of Employer & Institution | From (Date) | To (Date) | Years-Months | Designation |
|-------|--|-------------|-----------|--------------|-------------|
|       |  |             |           |              |             |
|       |  |             |           |              |             |

**27. Industrial/Research Experience as on September 30, 2019 (Monday)**

| Sl.No | Name of the Organization | From (Date) | To (Date) | Years-Months | Designation |
|-------|--------------------------|-------------|-----------|--------------|-------------|
|       |                          |             |           |              |             |
|       |                          |             |           |              |             |

**28. Short Term Courses attended**

| Sl.No | Name of the Course & Category | Organizer | Days | From | To |
|-------|-------------------------------|-----------|------|------|----|
|       |                               |           |      |      |    |
|       |                               |           |      |      |    |
|       |                               |           |      |      |    |

**29. Research Papers/Book**

| Sl.No | Title of Paper/Book | Name of Author(s) | Name of Journal/Conference | Year | Vol. | Pages |
|-------|---------------------|-------------------|----------------------------|------|------|-------|
|       |                     |                   |                            |      |      |       |
|       |                     |                   |                            |      |      |       |

**Declaration**

- a. I declare that all the information given by me in this application form is correct to the best of my knowledge and belief, and I understand that false or incomplete information would cause invalidation of the application.
- b. I shall abide by the decision of the National QIP Coordination Committee (NQCC) in all matters pertaining to admissions. The decision of the Committee shall be final and binding on me.
- c. I shall abide by the rules and regulations of the Institutions to which I will be offered admission, if selected.
- d. For all legal actions, suits and proceedings, the jurisdiction of a court of law shall be deemed to lie exclusively at the place at which the Institution considering me for admission is situated or the place where the office of the Principal Coordinator QIP is located and at no other court of place.
- e. I understand the contents of this form and, particularly, this declaration being made here.

**Place:**

**Signature of the Applicant**

**Date:**

---

**Certificate and Forwarding Note by the Principal/Head of the Institution**

- a) Our Institution as well as the academic department, to which the applicant Mr./Ms. \_\_\_\_\_ belongs, is approved by AICTE.
- b) The applicant is a full-time regular / permanent faculty member of our Institution and is not on deputation to any other Institution.
- c) The applicant has \_\_\_\_\_ years and \_\_\_\_\_ months of teaching experience as on **September 30, 2019 (Monday)** at the graduate level (Certificates enclosed)
- c) The applicant will be relieved full-time for the programme on deputation and will be paid full salary and allowances during the tenure of his/her sponsorship, if selected for admission.

**Office Seal:**

**Signature of Principal or Head of Institution**

**(With full contact details Name, Designation, Contact No., E-mail & AICTE affiliation No.)**

**Date:**









**Note:**

- Conditional Recommendation will not be accepted.
- This Forwarding Note should be signed only by the Principal or the Head of the Institution.
- Any alteration made in the text of this Forwarding Note leads to automatic rejection of the application.
- Please attach separate experience certificate.

For any further details please contact the zonal QIP Coordinators at address indicated below



**Prof. Hemant B. Kaushik**  
**Principal Coordinator, QIP**  
 Head, Centre for Educational Technology  
 Indian Institute of Technology Guwahati  
 Guwahati – 781039, Assam  
 Tel: 0361–2583007, 0361–2583008  
 Fax: 0361–2690762  
 Email: qip@iitg.ac.in

|   |   |   |   |
|---|---|---|---|
|    | <p><b>Prof. Narayanan G</b><br/>                     QIP Coordinator<br/>                     Indian Institute of Science,<br/>                     Bangalore<br/>                     BENGALURU – 560 012<br/>                     Tel: 080–22932247,<br/>                     080–23608150, 080–22932491,<br/>                     080 –23600911<br/>                     Fax: 080–23600911, 080–23608150<br/>                     Email: gnar@ee.iisc.ac.in<br/>                     office@cce.iisc.ac.in</p> |    | <p><b>Prof. Preeti Rao</b><br/>                     QIP Coordinator<br/>                     Indian Institute of Technology<br/>                     Bombay<br/>                     MUMBAI – 400 076<br/>                     Tel: 022–2572 2545,<br/>                     022–25767006, 022–25767048<br/>                     Fax: 022-25723480<br/>                     Email: qip@iitb.ac.in</p>  |
|  | <p><b>Prof. Mahim Sagar</b><br/>                     Head, QIP/CEP/TEQIP–III<br/>                     Indian Institute of Technology Delhi<br/>                     Hauz Khas, NEW DELHI–110 016<br/>                     Tel.: 011– 26591915,<br/>                     011– 26597118,<br/>                     011– 26591343<br/>                     Fax: 011– 26581069<br/>                     Email: hodqipcep@admin.iitd.ac.in</p>  |  | <p><b>Prof. Rajesh M. Hegde</b><br/>                     QIP Coordinator<br/>                     Head, Centre for Continuing<br/>                     Education<br/>                     Indian Institute of Technology<br/>                     KANPUR – 208 016<br/>                     Tel.: 0512–2597795<br/>                     Fax: 0512–2596209<br/>                     Email: head_cce@iitk.ac.in<br/>                     cce@iitk.ac.in<br/>                     qip@iitk.ac.in</p>   |
|  | <p><b>Prof. Adrijit Goswami</b><br/>                     Dean, CE &amp; QIP Coordinator<br/>                     Indian Institute of Technology<br/>                     Kharagpur,<br/>                     KHARAGPUR – 721 302<br/>                     Tel: 03222–282033,<br/>                     03222–283548<br/>                     Fax: 03222–220508<br/>                     Email: deance@hijli.iitkgp.ac.in</p>   |  | <p><b>Prof. Devendra Jaliha</b><br/>                     Chairman, CCE &amp; QIP Coordinator<br/>                     Indian Institute of Technology<br/>                     Madras<br/>                     CHENNAI – 600 036<br/>                     Tel: 044 –22574900, 044 –22574901<br/>                     044 – 22574676<br/>                     09444008700 / 09444462154<br/>                     Fax: 044 – 22574920,<br/>                     044 – 22574652<br/>                     044 – 22574676<br/>                     Email: chaircce@iitm.ac.in</p> |
|  | <p><b>Prof. Vimal Chandra Srivastava</b><br/>                     QIP Coordinator, QIP Centre<br/>                     Indian Institute of Technology<br/>                     Roorkee<br/>                     ROORKEE – 247667 (Uttarakhand)<br/>                     Tel: 01332 – 285241 / 285247<br/>                     Fax: 01332 – 286691, 273560<br/>                     Email: qip.iitr@gmail.com<br/>                     qip@iitr.ac.in</p>  |  | <p><b>Prof. B. K. Shrivastva</b><br/>                     QIP Coordinator<br/>                     QIP Centre<br/>                     Indian Institute of Technology (BHU)<br/>                     Varanasi (U.P.) – 221005, India<br/>                     Phone/Tele FAX: 0542–2369434 (o)<br/>                     Email: coordinator.qip@itbhu.ac.in,<br/>                     bkshrivastva.min@itbhu.ac.in</p>   |



**Prof. Hemant B. Kaushik**

Principal Coordinator QIP

Head, Centre for Educational Technology

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Tel: 0361-2583007, 0361-2583008, Fax: 0361-2690762

Email: [qip@iitg.ac.in](mailto:qip@iitg.ac.in)

[www.iitg.ac.in/cet/qip.html](http://www.iitg.ac.in/cet/qip.html)

