**Indian Institute of Engineering Science and Technology, Shibpur**

Course Structure for Two-Year M.Tech Program (From 2019 Onward)

**Department/School/Center of Dr.M.N.Dastur School of Materials Science and Engineering**

**Specialization (if any):** Materials Science and Technology

**1st Semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No | Course Name | Course code | Class Load/Week | | | Credit | Marks |
| L | T | P |  |  |
| 1. | Paper I: Introduction to Materials | MT 5101 | 3 | 0 | 0 | 3 | 100 |
| 2. | Paper II: Advanced Materials Characterization | MT 5102 | 3 | 0 | 0 | 3 | 100 |
| 3. | Paper III: Metallic Materials | MT 5103 | 3 | 0 | 0 | 3 | 100 |
| 4. | Paper IV: Low-dimensional Materials | MT 5121 | 3 | 0 | 0 | 3 | 100 |
| 5. | Paper V: Crystallography and X-ray diffraction | MT 5161 | 3 | 0 | 0 | 3 | 100 |
|  | **Theory Sub-total : 500** |  |  |  |  |  |  |
| 6. | Lab I: Heat Treatment and Materials Processing Lab. | MT 5171 | 0 | 0 | 2 | 2 | 100 |
| 7. | Lab II: Materials Characterization Lab. | MT 5172 | 0 | 0 | 2 | 2 | 100 |
| 8. | Lab III: Ceramic and Polymer Synthesis Lab | MT 5173 | 0 | 0 | 2 | 2 | 100 |
|  | **Practical Sub-total: 300** |  |  |  |  |  |  |
|  | 1st Semester Total: 800 |  |  |  |  |  |  |

**2nd Semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Sl. No | Course Name | Course code | Class Load/Week | | | Credit | Marks |
| L | T | P |  |  |
| 1. | Paper VI: Ceramic Materials | MT 5201 | 3 | 0 | 0 | 3 | 100 |
| 2. | Paper VII: Composite Materials | MT 5202 | 3 | 0 | 0 | 3 | 100 |
| 3. | Paper VIII: Polymeric Materials | MT 5203 | 3 | 0 | 0 | 3 | 100 |
| 4. | Paper IX : Electronic Materials | MT 5221 | 3 | 0 | 0 | 3 | 100 |
| 5. | Paper X : Bio-Materials | MT 5261 | 3 | 0 | 0 | 3 | 100 |
|  | **Theory Subtotal:500** |  |  |  |  |  |  |
| 6. | M. Tech thesis Part - I (Term Paper) | MT 5291 |  |  |  | 4 | 200 |
| 7. | Term Paper Seminar & Viva-voce | MT 5292 |  |  |  | 2 | 100 |
|  | **Practical Subtotal: 300** |  |  |  |  |  |  |
|  | 2nd Semester Total: 800 |  |  |  |  |  |  |

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| **Paper IV [Departmental Elective]** | | **Paper IX [Departmental Elective]** | |
| **Course Code** | **Course Title** | **Course Code** | **Course Title** |
| MT 5121 | Low-dimensional materials | MT 5221 | Electronic Materials |

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| **Paper V [Open Elective ]** | | **Paper X [Open Elective]** | |
| **Course Code** | **Course Title** | **Course Code** | **Course Title** |
| MT 5161 | Crystallography and X-ray diffraction | MT 5261 | Bio-Materials |