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

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

**Department of Earth Sciences**

**1st Semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No** | **Course Name** | **Course code** | **Class Load/Week** | | | **Credit** | **Marks** |
| **L** | **T** | **P** |
| 1. | **Paper I:** Igneous Petrology & Phase Equilibria | ES5101 | 4 | 0 | 0 | 4 | 100 |
| 2. | **Paper II:** Mineralogy & Geochemistry | ES5102 | 4 | 0 | 0 | 4 | 100 |
| 3. | **Paper III:** Structural Geology & Tectonics | ES5103 | 4 | 0 | 0 | 4 | 100 |
| 4. | **Paper IV:** (Dep. Elective)  Environmental Geology  Engineering Geology | ES5121  ES5122 | 3 | 0 | 0 | 3 | 100 |
| 5. | **Paper V:** (Open Elective)  Introduction to Earth materials | ES5161 | 3 | 0 | 0 | 3 | 100 |
|  | **Theory Sub-total** |  | **18** | **0** | **0** | **18** | **500** |
| 6. | **Lab1:** Structural Geology Practical and Field- work | ES5171 | 0 | 0 | 3 | 2 | 50 |
| 7. | **Lab2:** Igneous Petrology and Mineralogy | ES5172 | 0 | 0 | 3 | 2 | 50 |
|  | **Practical Sub-total** |  | **0** | **0** | **06** | **4** | **100** |
|  | 1st Semester Total |  | **18** | **0** | **06** | **22** | **600** |

**2nd Semester**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Sl. No** | **Course Name** | **Course code** | **Class Load/Week** | | | **Credit** | **Marks** |
| **L** | **T** | **P** |
| 1. | **Paper VI:** Sedimentology & Basin Analysis | ES5201 | 4 | 0 | 0 | 4 | 100 |
| 2. | **Paper VII:** Metamorphic Petrology &Thermodynamics | ES5202 | 4 | 0 | 0 | 4 | 100 |
| 3. | **Paper VIII:** Principles of Stratigraphy & Indian Stratigraphy | ES5203 | 4 | 0 | 0 | 4 | 100 |
| 4. | **Paper IX**: (Dep. Elective)  Mathematical Geology  Marine Geology | ES5221ES5222 | 3 | 0 | 0 | 3 | 100 |
| 5. | **Paper X:** (Open Elective)  Life through Ages | ES5261 | 3 | 0 | 0 | 3 | 100 |
|  | **Theory Subtotal** |  | **18** | **0** | **0** | **18** | **500** |
| 6. | **Lab3:** Metamorphic Petrology and Sedimentology Practical | ES5271 | 0 | 0 | 3 | 2 | 50 |
| 7. | Term Paper | ES5291 | 0 | 0 | 8 | 4 | 100 |
| 8. | Term Paper Seminar & Viva-voce/mini Project | ES5292 | 0 | 0 | 0 | 2 | 50 |
|  | **Practical Subtotal** |  | **0** | **0** | **11** | **8** | **200** |
|  | 2nd Semester Total |  | **18** | **0** | **11** | **26** | **700** |

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| **Paper IV [Departmental Elective]** | | **Paper IX [Departmental Elective]** | |
| **Course Code** | **Course Title** | **Course Code** | **Course Title** |
| ES5121  ES5122 | Environmental Geology  Engineering Geology | ES5221 ES5222 | Mathematical Geology  Marine Geology |

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| **Paper IV [Open Elective ]** | | **Paper IX [Open Elective]** | |
| **Course Code** | **Course Title** | **Course Code** | **Course Title** |
| ES5161 | Introduction to Earth materials | ES5261 | Life through Ages |