

**Teaching Plan for the Session 2025–26****Name of the Teacher:** Dr. Raktim Ranjan Saikia**Department:** Geology**Institution:** Jagannath Barooah University**ODD SEMESTER (1st, 3rd, 5th)**

Class/Sem	Title & Code (Credit)	Method of Teaching	Teaching Material	Unit	Topic	Hours	Details of Contents	Remarks/Books
1st	GEOMJ-011: Fundamentals of Earth System Science I (4)	Lecture + Practical	PPT, Models, Maps	Unit 1	Holistic understanding of Earth	7	Origin of Universe, Solar System, Meteorites, Earth sciences branches	Skinner & Porter, Emiliani
1st	GEOMJ-011	Lecture + Practical	PPT, Models	Unit 2	Earth and its Spheres	10	Lithosphere, Atmosphere, Hydrosphere, Biosphere, Pedosphere	Duff, Kolay
1st	GEOMI-011	Lecture + Practical	PPT, Models, Maps	Unit 1	Holistic understanding of Earth	7	As above	Same as Major
1st	GEOMI-011	Lecture + Practical	PPT, Models	Unit 2	Earth and its Spheres	10	As above	Same as Major
3rd	GEOMJ-031: Mineral Science (4)	Lecture + Practical	Crystal Models, Slides	Unit 4	Optical Mineralogy	12	Isotropic/Anisotropic, Interference figures, Microscope	Verma, Kerr
3rd	GEOMJ-031	Lecture + Practical	Specimens, Charts	Unit 5	Rock-forming Minerals	12	Feldspar, Mica, Olivine, Amphibole, Silica etc.	Klein & Dutrow
3rd	GEOMI-031	Lecture + Practical	Specimens, Microscope	Unit 4	Sedimentary Petrology	9	Grain size, structures, types, environment	Tucker, Boggs
3rd	GEOMI-031	Lecture + Practical	Slides, Specimens	Unit 5	Metamorphic Petrology	9	Facies, Grades, Reactions	Winter, Yardley
5th	GEOMJ-051: Metamorphic Petrology (4)	Lecture + Practical	Thin Sections, Diagrams	All	Metamorphism types and reactions	45	Facies, grades, thermodynamics, geothermobarometry	Philpotts, Ague, Yardley

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5th	GEOMI-051: Earth Resource (4)	Lecture + Practical	Maps, Models	All	Mineral & Energy Resources	45	Economic minerals, petroleum, coal, uses	Gokhale, Mukerjee

#### **EVEN SEMESTER (2nd, 4th, 6th)**

Class/Sem	Title & Code (Credit)	Method of Teaching	Teaching Material	Unit	Topic	Hours	Details of Contents	Remarks/Books
2nd	GEOMJ-021: Fundamentals of Earth System Science II (4)	Lecture + Practical	Hand Specimens, Charts	Unit 1	Intro to Geochemistry	8	Elemental abundance, cycles, isotopes	Mason, Walther
2nd	GEOMJ-021	Lecture + Practical	Specimens, Microscope	Unit 2	Intro to Mineralogy	10	Chemical bonding, silicate groups	Klein & Dutrow
2nd	GEOMI-021	Lecture + Practical	Hand Specimens, Charts	Unit 1	Intro to Geochemistry	8	Same as above	Mason, Walther
2nd	GEOMI-021	Lecture + Practical	Specimens, Microscope	Unit 2	Intro to Mineralogy	10	Same as above	Deer, Howie, Zussman
4th	GEOMJ-043: Paleontology (4)	Lecture + Practical	Fossils, Slides	All	Fossils & Evolution	45	Modes of preservation, invertebrates, vertebrates, human evolution	Raup & Stanley, Benton
4th	GEOMI-041: Historical Geology (4)	Lecture + Practical	Stratigraphic Charts, Models	Unit 1	Intro & Early Earth	7	Archean-Proterozoic, mountain building, supercontinents	Krishnan, Doyle
4th	GEOMI-041	Lecture + Practical	Fossils, Maps	Unit 2	Evolution & Taxonomy	7	Invertebrate & vertebrate record	Benton, Valdiya
6th	GEOMJ-061: Geodynamics and Tectonics (4)	Lecture + Practical	Tectonic Models, Maps	All	Plate tectonics & Earth dynamics	45	Plate margins, earthquake belts, faults	Condie, Fossen

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6th	GEOMI-061: Climate & Environmental Geology (4)	Lecture + Practical	Climate Charts, RS Images	All	Paleoclimate, Geohazards, Environmental Issues	45	Anthropogenic changes, natural hazards, case studies	Keller, Chorley