

Teaching Plan (2025–26) – Dr. Raghupratim Rakshit

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Class/Semester	Title & Code of the Paper Allotted (Credit)	Method of Teaching	Teaching Material	Unit	Topic	Period/Hours Required	Details of the Contents	Remarks/Books
B.Sc. 1st Sem (Major)	GEOMJ-011 (4) – Fundamentals of Earth System Science I	Lecture, PPT, Discussion	Syllabus, Diagrams, Models	Unit 4	Geodynamics	12	Plate tectonics, sea-floor spreading, continental drift, isostasy, earthquakes, volcanoes, neotectonics	Condie (1976), Emiliani (1992), Duff & Duff (1993)
B.Sc. 1st Sem (Minor)	GEOMI-011 (4) – Fundamentals of Earth System Science I	Lecture, PPT, Discussion	Syllabus, Diagrams, Models	Unit 4	Geodynamics	12	Same as above	Same as above
B.Sc. 2nd Sem (Major)	GEOMJ-021 (4) – Fundamentals of Earth System Science II	Lecture, Chalk & Talk	Maps, Rocks, Charts	Unit 4	Structural Geology	7	Deformation, stress & strain, planar/linear structures, folds, faults, joints	Davis (1984), Billings (1987)
B.Sc. 2nd Sem (Minor)	GEOMI-021 (4) – Fundamentals of Earth System Science II	Lecture, Chalk & Talk	Models, Rocks, Charts	Unit 4	Structural Geology	7	Same as above	Same as above
B.Sc. 2nd Sem (SEC)	GEOSK-021 (3) – Lab Techniques	Demonstration, Field Practice	Survey tools, Soil & Water Kits	Unit 2	Soil & Water Testing	25	Soil sampling, water testing methods, soil classification, water quality evaluation	Moorberg & Crouse (2021), Singh (2017)

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B.Sc. 3rd Sem (Major)	GEOMJ-032 (4) – Structural Geology	Lecture, Practical	Maps, Stereonets, Charts	All Units	All topics	45 (T) + 30 (P)	Stress-strain, folds, faults, lineations, topographic maps	Fossen (2016), Ragan (2009), Davis (1984)
B.Sc. 3rd Sem (SEC)	GEOSK-031 (3) – Lab Techniques	Hands-on, Fieldwork	Soil, Water, Survey Instruments	Unit 2	Soil & Water Testing	25	As above	As above
B.Sc. 3rd Sem (Multi)	GEOMU-031 (3) – Intro to Earth Science	Lecture	Basic Earth Science Texts	All Units	All topics	45	Earth systems, minerals, resources, geohazards	Mukerjee (2013), Mahapatra (2018)
B.Sc. 4th Sem (Major)	GEOMJ-044 (4) – Principles of Stratigraphy	Lecture, Case Study	Charts, Maps, Slides	All Units	All topics	45 (T) + 30 (P)	Stratigraphic principles, unconformities, dating methods, GSSP, correlation	Boggs (2013), Krishnan (1982), Doyle & Bennett (1996)
B.Sc. 4th Sem (Minor)	GEOMI-041 (4) – Historical Geology	Lecture, Map Work	Maps, Hand Specimens	Units 3–5	Stratigraphy of India	21	Indian stratigraphy: Dharwar, Vindhyan, Gondwana, Siwaliks, etc.	Valdiya (2010), Ramakrishnan (2008)
B.Sc. 5th Sem (Major)	GEOMJ-054 (4) – Economic Geology	Lecture, Specimens	Diagrams, Indian Mineral Maps	All Units	All topics	45 (T) + 30 (P)	Ore formation, Indian deposits (Fe, Mn, Au, Cu, Pb-Zn, etc.), mining	Gokhale & Rao (1978), Guilbert & Park (1986), Robb (2005)
B.Sc. 5th Sem (Minor)	GEOMI-051 (4) – Earth Resources (Practicals)	Practical, Project	Resource Maps, Rock Samples	All Units	All Topics	30	Energy resources, economic minerals, mapping, practical skills	Prasad (2019), Lutgens & Tarbuck (2012)

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B.Sc. 6th Sem (Major)	GEOMJ-064 (4) – Geomorphology	Lecture, Models	Maps, Charts, Remote Sensing	All Units	All Topics	45 (T) + 30 (P)	Landforms, weathering, slope, fluvial, glacial, coastal geomorphology	Bloom (2004), Thornbury (1994), Kale & Gupta (2001)