

Semester Lecture Plan

Name of the college: Government College of Arts, Science & Commerce, Sanquelim-Goa							
Name of Faculty: DATTARAJ JAWDEKAR				Subject: Geology			
Paper code: GEO 100			Program/Course: Introduction to Mineralogy and Petrology			Division:	
Academic year: 2026 – 2027			Semester: I			Total Lectures: 45	
The objectives of this course are to: 1. Discuss the origin, shape, and size of the Earth. CL2 2. Explain the concepts of continental drift and plate tectonics. CL2 3. Demonstrate the symmetry in crystals. CL2 4. Describe minerals and rocks using physical properties. CL2							
At the end of the course the student will be able to: 1. Differentiate the layers of the Earth based on their structure and composition. CL2 2. Identify minerals based on their physical properties. CL3 3. Deduce the symmetry of crystals. CL4 4. Categorize rocks based on their properties. CL4							
Month	Lectures From: To:		No. of lectures allotted	Topic, Subtopic to be covered	Learning outcome	ICT Tools	Reference books

MONTH	LECTURE		No. of lectures allotted	Topic, Subtopic to be covered	Learning outcome	ICT Tools	Reference books
	FROM	TO					
JUNE	19/06/2026	20/06/2026	0	Classes Suspended due to NEET exam protocol			
	22/06/2026	27/06/2026	3	Introduction to Geology; Applications and Career opportunities in Geosciences.	1	Chalk and Board	
JUNE	29/06/2026	30/06/2026	3	Introduction to Planetary Geology, Origin of the earth: Nebular Hypothesis; Shape, Size, Structure of the earth	1	Chalk and Board	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
JULY	01/07/2026	04/07/2026	3	Structure of the earth, Introduction to Plate Tectonics.	1	Chalk and Board	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	6/07/2026	11/07/2026	3	Introduction to Plate Tectonics.	1	Chalk and Board	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	13/07/2026	18/07/2026	3	Elementary Crystallography and Mineralogy: Scope and importance, states of matter, crystalline state, atomic arrangement in crystals.	2,3	Chalk and Board	Markshak, Holmes, P. Singh, Tarbuk and Lutgens

	20/07/2026	25/07/2026	3	Elementary Crystallography and Mineralogy: Scope and importance, states of matter, crystalline state, atomic arrangement in crystals.	2,3	Chalk and Board	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
JULY/ AUGUST	27/07/2026	31/07/2026	3	External characteristics of crystals, face, form, interfacial angles, law of constancy of interfacial angles. Goniometers, crystal symmetry.	2,3	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	03/08/2026	08/08/2026	3	Classification of crystals, crystallographic axes and systems, parameters and indices, study of the normal symmetry classes. Applications of crystal properties.	2,3	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	10/08/2026	15/08/2026	3	Physical properties of minerals, colour, streak, lustre,	2	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens

				diaphaneity, cleavage, fracture, form, habit, hardness, specific gravity, electrical and magnetic properties.			
	17/08/2026	22/08/2026	3	Introduction of common rock - forming minerals: quartz, feldspar, micas, pyroxenes, amphiboles and olivine.	2	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	24/08/2026	28/08/2026	3	Rocks: their classification into three broad classes, igneous, sedimentary and metamorphic, Rock Cycle.	4	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
SEPTEMBER	31/08/2026	5/9/2026	3	Igneous Rocks: plutonic hypabyssal and volcanic types. Forms, structures and textures.	4	Chalk and Board, Demo, Fieldwork	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	07/09/2026	12/09/2026	3	Igneous Rocks: plutonic hypabyssal and volcanic types. Forms, structures and textures.	4	Chalk and Board, Demo, Fieldwork, Videos	Markshak, Holmes, P. Singh, Tarbuk and Lutgens

	14/09/2026	19/09/2026	3	Bowen's Reaction series. Classification based on grain size and mineral composition.	4	Chalk and Board	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	21/09/2026	26/09/2026	3	Sedimentary Rocks: Structures, Textures and Classification of Sedimentary Rocks. Depositional Environments.	4	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	28/09/2026	30/09/2026	3	Sedimentary Rocks: Structures, Textures and Classification of Sedimentary Rocks. Depositional Environments.	4	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
OCTOBER	01/10/2026	03/10/2026	3	Metamorphic Rocks: agents of metamorphism, types of metamorphism, fabric and Classification of Metamorphic Rocks.	4	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens
	05/10/2026	10/10/2026	3	Metamorphic Rocks: agents of metamorphism, types of metamorphism, fabric and Classification of Metamorphic	4	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens

				Rocks.			
	12/10/2026	14/10/2026	3	Crystallography and Mineralogy	2,3	Chalk and Board, Demo	Markshak, Holmes, P. Singh, Tarbuk and Lutgens

*** Assessment Rubrics**

Component	Max Marks
ISA 1	7.5
ISA 2	7.5
Practical	25
Project	
Semester End Exam	60