Semester Lecture Plan

Name of the college: Government College of Arts, Science & Commerce, Sanquelim, Goa-India

Name of Faculty: Shritesh Mhapsekar			Subject: Geology					
Paper code: (GEC 107, Igneous	Petrology		Program/Course: TY	Y B.Sc.	Division:		
							<i>(</i>)	
Academic yea	r: 2024- 2025			Semester: V Total Lectures: 60			ires: 60	
Course Objec	tives:		PP 4 4	e t 1		• 1 6		
1. Students wi	III acquire knowle	edge about the di	ferent typ	es of Igneous rocks an	d understand th	eir modes of		
2. Students wi	ill understand the	nrocesses involv	ed in the f	ormation of igneous ro	ocks and their d	iversity		
3. Students will understand the various classifications of igneous rocks based on different criteria								
4. Students will acquire knowledge about magmas and their origin in different tectonic settings								
Course Learning Outcome:								
1. Students wi	ill be able to iden	tify common igne	ous rocks	both in hand specimen	<mark>1 and thin sectio</mark>	n		
2. Students wi	2. Students will be able to identify and describe igneous structures and textures, and infer the geological processes							
involved in th	involved in their formation and classify them							
5. Students wi	in de able to inter	pret phase diagra	ams of con	amon igneous systems				
		Lactures	No of					
Month	Lectures	Lectures	lectures	Topic, Subtopic to	Exercise/	ICT Tools	Reference	
	From:	To:	allotted	be covered	Assignment		books	
	July 1, 2024	July 7, 2024		Introduction to this			Winter John:	
JUILY			4	paper and syllabus			Igneous and	
				discussion			metamorphic	

				Introduction to this paper and syllabus discussion	Assignment on Plate boundaries	petrology, Prentice Hall, 2010.
				Igneous activity in relation to plate margins and plate interiors		Best M.: Igneous and Metamorphic rocks,
				Igneous activity in relation to plate margins and plate interiors	-	Wiley- Blackwell, 2002.
JUILY	July 8, 2024	July 14, 2024	4	Magmas, their nature, temperature, density,viscosity, chemical composition and role of volatiles. Magmas, their nature, temperature, density,viscosity, chemical composition and role of volatiles. Magmas, their nature, temperature, density,viscosity, chemical composition and role of volatiles. Mode of occurrence		
	July 15, 2024	July 21, 2024	4	Mode of occurrence Mode of occurrence Mode of occurrence Kindred and suite		
	July 22, 2024	July 28, 2024	4	Structures of Igneous rocks Structures of		

						_
			Igneous rocks			
			Structures of			
			Igneous rocks			
			Structures of			
			Igneous rocks			
July 29, 2024	August 4, 2024	4	ISA I	To identify		Ignoous and
			Classification (IUGS)	the textures in		Metamorphic
			Classification (IUGS)	hand		rocks
			Classification	specimen and		Wiley-
			(IUGS)	under		Blackwell
				microscope		2002
August 5, 2024	August 11, 2024	4				2002.
August 5, 2024	August 11, 2024	4	textures of igneous			
			rocks.			Winter John:
			toxturos of ignocus	-		Igneous and
			rocks			metamorphic
			textures of igneous	-		petrology,
			rocks.			Prentice
			textures of igneous	-		Hall, 2010.
			rocks.			
August 12, 2024	August 18, 2024	4	Generation and			Best M ·
			ascent of magma.			Igneous and
			Generation and			Metamorphic
			ascent of magma.			rocks.
			Holiday			Wiley-
			Magmatic evolution			Blackwell,
August 19, 2024	August 25, 2024	4	Magma			2002.
			differentiation			Best M.: Igneous and
			Magma			
			differentiation			
			magma mixing			rocks,
			Magma assimilation	1		Wiley-
						Blackwell,
August 26, 2024	September 1,	4	Study of following]		2002.
	July 29, 2024 August 5, 2024 August 12, 2024 August 19, 2024	July 29, 2024 August 4, 2024 August 5, 2024 August 11, 2024 August 12, 2024 August 18, 2024 August 19, 2024 August 25, 2024 August 26, 2024 September 1,	July 29, 2024August 4, 20244July 29, 2024August 4, 20244August 5, 2024August 11, 20244August 12, 2024August 18, 20244August 19, 2024August 25, 20244August 26, 2024September 1,4	Igneous rocksJuly 29, 2024August 4, 20244ISA I Classification (IUGS) Classification (IUGS) Classification (IUGS) Classification (IUGS) Classification (IUGS) Classification (IUGS)August 5, 2024August 11, 20244textures of igneous rocks. textures of igneous rocks.August 12, 2024August 18, 20244Generation and ascent of magma. Holiday Magmatic evolutionAugust 19, 2024August 25, 20244Magma 	Indext Part of the sector of	August 5, 2024 August 11, 2024 4 Igneous rocks Structures of Igneous rocks To identify the textures in Classification (IUGS) August 12, 2024 August 13, 2024 4 Isx I Classification (IUGS) To identify the textures in Classification (IUGS) August 12, 2024 August 13, 2024 4 textures of igneous rocks. textures of igneous rocks. August 12, 2024 August 18, 2024 4 textures of igneous rocks. textures of igneous rocks. August 12, 2024 August 18, 2024 4 Generation and ascent of magma. Holiday Generation and ascent of magma. Holiday August 19, 2024 August 25, 2024 4 Magma differentiation magma mixing Magma differentiation August 26, 2024 September 1, 4 Study of following Magma

		2024		suite (clans) of rocks:]		
				granites,			
				Study of following			
				suite (clans) of rocks:			
				granites,			
				Study of following			
				suite (clans) of			
				rocks: syenites			
				Study of following			
				suite (clans) of rocks:			
				syenites			
	September 2,	September 8,	4	Study of following			
	2024	2024		suite (clans) of			
				rocks: gabbroic	Identifying rocks in		
				Study of following			
				suite (clans) of			
				rocks: gabbroic			
				Holiday	- nandspecimen		
					and		
				Holiday	classifying		
	Contombor 0	Contombor 15	4	Halidari	ulelli		Winter John
	september 9,	September 15,	4	Holiday	_		Winter John:
	2024	2024		Holiday			Igneous and
SEPTEMBE							metamorphic
R							petrology,
							Prentice
				TT 1' 1	-		Hall, 2010.
				Holiday			
				Study of following	-		
				suite (clans) of			
				rocks: ultramafic			
	September 16.	September 22.	4	Crystallization trend			
	2024	2024	- T	of Di-Ab-An system			Best M.: Igneous and
				Crystallization trend	1		
				of Di-Ab-An system			Metamorphic
	L		1	,			

				Ne-Ka-Si system,		rocks, Wiley- Blackwell
				Ne-Ka-Si system,		2002.
	September 23, 2024	September 29, 2024	4	ISA II	dentifying rocks in	
				Study of		
				lamprophyres	nandspecimen	
				anorthosites	and classifying them	
				carbonatites		
	September 30,	October 6,		carbonatites		
	2024	2024		Holiday		
				kimberlites		Winter John:
			4	kimberlites		Igneous and
	October 7,	October 13, 2024		Geology of layered		metamorphic
	2024			igneous intrusions	_	petrology,
				Geology of layered		Prentice
				igneous intrusions		Hall, 2010.
OCTOBER				Flood basalts	Identifying	
				Flood basalts &	rocks in	
			4	large igneous	handspecimen	
	October 14	October 20	4		and	-
	October 14, 2024	October 20, 2024		nrovinces	them	
				revision		-
				revision		1
			4	revision		1
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Component	Max Marks
ISA 1	10
ISA 2	10
Practical	50
Project	-
Semester End Exam	80

Assessment Rubrics