GOVT.DIGVIJAY AUTONOMOUS PG COLLEGE RAJNANDGAON (CG)

DEPARTMENT OF GEOLOGY SYLLABUS FOR

THE EXPRINE YEAR UNDERGRADUATE PROCESS ...

B.Sc. I,II,III,IV,V,VI SEMESTER

DSC Syllabus DSE Syllabus SEC Syllabus

Session 2025-26

Member of Board of Study - Geology

Chairperson/ HOD: Narendra Kumar Sakre Moble
Subject Expert: Dr. S. D. Deshmukh

Dr.S.Janamai

Subject Expert: Dr. Prashant Shrivasty

Subject Expert: Dr. Rajeev Guhe

GOVT.DIGVIJAY AUTONOMOUS PG COLLEGE RAJNANDGAON (CG)

Department of Geology B.Sc. Geology Semester - 1, 11, 111, IV, V, VI Session 2025-26

Syllabus & Scheme of Semester System Session 2025-26

sem.	Course	Course Code	Name	Credits	Niark
	DSC- 1 T		Fundamental of Geology	03	
١	the same of the sa		Fundamental of Geology	0.1	
	DSC- 1 P		Fundamental of Geology	0.3	
	GL: - 1 T	The second secon	Fundamental of Geology	0 !	1.
	GE - 1P	The second secon	Disaster Management	0.2	
	VAC		Essentials of Geology	0.3	
1	DSC- 2 T		Essentials of Geology	()!	
	DSC- 2 P		Essentials of Geology Essentials of Geology	03	
	GE - 1T			() [
	GE - 1 P		Essentials of Geology Rain Water Harvesting	02	,
	SEC		Igneous & Metamorphic Petrology	0.3	
11	DSC- 3 T		Igneous & Metamorphic Petrology	01	
	DSC- 3 P	1 2 2 2	Igneous & Wetamorphic Ferrolegy	0.3	
	DSE - 3 T		Earth & Climate Natural resources and management	() 1	
	DSE - 3 P			02	
	VAC -		Disaster Management Sedimentary Petrology & Crustal	0.3	
1N'	DSC- 4 T		Sedimentary Petrology & Ordota		
			Evolution Sedimentary Petrology & Crustal	01	
	DSC- 4 P		Evolution		
			Environmental Geology	0.3	
	DSE - 4 T		Microbiology and Phytooathology	UL	
	DSE - 4 P		Rain Water Harvesting	112	
	SEC		Stratigraphy	03	
. \	DSC-5 T		Stratigraphy	0.1	
	DSC-5P		Palaeontology	0.3	
	DSE 5 1		Palaeontology	0.1	
	DSE - 51	,	The second section is a second	03	
i VI	DSC- 6T		Applied Geology	01.	
	DSC- 6P	1.2	Applied Geology	03	
	DSE- 6T		Geological Mapping Techniques	01	
	DSE- 6P		Plant breeding and Seed technology)		-

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FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY

	1	COURSE CURRICULUM		
P	ART-A: Introduction			
	rogram: Bachelor in Science ertificate/Diploma/Degree/Honor	Semester: II	Session:202 6 -202	.
1	Course Code	GI	ESC-02T	
2	Course Title	Essenti	als of Geology	
3	Course Type	Discipline Specific	Course	
4	Pre-requisite (if any)	As per program		
5 6 7	Course Learning Outcomes (CLO) Credit Value Total Marks	After successfully completing this co Explain about the basics of cryst crystallographic axes and symm Describe various forms of norm Classify the minerals in various varieties. Describe the physical properties Describe the optical characteristi Credits (Credit=15 hours-lear Max. Marks: 100	tallography, various crystal for etry elements. al classes of various crystal s silicate groups and explain the of various minerals. cs of various minerals.	orms,
	- B: CONTENT OF THE COU	RSE		
7	Total No. of Teaching-learning P	eriods (01 hour per period)- 45 Per	iods (45 Hours)	
Unit		Topics (Course Contents)	100 mg 7	No. of Period
I	& Non-metallic etc.). Physical,	eral, Mineral Classification (Ore formical and optical properties of mi	nerals.	10
П	Crystallography: Definition of Silicate Structure and its types a	Crystal, Crystal Lattice, Classifications with mineral examples.	ation of Crystal System.	11
П	Petrology: Rock Cycle. Types at Metamorphic and Sedimentary) Metamorphic and Sedimentary r	nd Mode of formation of different Roc and their properties. Texture and Stru ocks.	cks (Igneous, cture of igneous,	12
v	Tabular Classification Igneous Clastic and Biogenic. Types and	Rocks. Classification of Sedimental Agents of Metamorphism.	ry Rocks: Clastic, non	12

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	Part - C	: L	earning	Resource
ı	C	٠.	Carming	Resource

. Text Books, Reference Books, Others

Text Books

Reference Books

- 4. Gribble, C.D. Rutley's Elements of Mineralogy. CBS, 2005.
- 5. Ford W. E.; Dana's Text Book of Mineralogy. CBS, 2006.
- 6. Perkins, D.; Mineralogy, Prentice Hollandia, 3rded.2012.
- 7. Rathore, B.S.; Basics of Crystallography, Mineralogy and Geochemistry. Notion Press in dia,2020 8. Sharma, RS. and Sharma, Anurag; Crystallography and Mineralogy- Concepts and Methods. Geol. Soc. Ind., Bengaluru, 2013.

e-resources:

- 1. https://www.mindat.org
- 2. https://www.mooc-list.com/tags/minerals
- 3. https://epgp.inflibnet.ac.in/Home
- 4. https://archive.orgldetails/in.ernet.dli.2015.233340/page/n15/mode/2up
- 5. https://egyankosh.ac.in/
- 6. https://sites.google.com/ignou.ac.in/bscgeology
- 7. SWAYAM-https://swayam.gov.in/explorer?searchtext
- 8. National digital library https://ndl.jitkgp.ac.in
- 9. e-PG pathshala (MHRD) portal, https://egpg.inflibnet.ac.in

PART- D: Assessment an	d Evaluation			
Suggested Continuous Ev	aluation Methods:			
Maximum Marks: 50 Marks				
Continuous Internal Assessment(CIA):15 Marks End				
Semester Exam (ESE): 35	Marks			
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar Attendance-05 Total Marks -15	Better marks out of the two T +obtained marks in Assignm considered against 15 M	ent shall be	
End Semester Exam (ESE):	Laboratory / Field Skill Perform A. Performed the Task based on lab. B. Spotting based on tools & technology C. Viva-voce (based on principle/technology)	work - 20Marks / (written)- IO Marks	Managed by Course teacher as per lab, status	

Signature of Convener & Members (CBoS):

FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY COURSE CURRICULUM

ro	RT-A: Introduction gram: Bachelor in Science tificate/Diploma/Degree/Honor	Sem	ester: II .	Session:2026-2026	
I	Course Code				
2	Course Title			GESC-02P	
3	Course Type	9/3	Lab. Course	e02 (Essentials of Geology)	
4	Pre-requisite (if any)	Discipline Specific Course As per program			
5	Credit Val		ully completing the magroup of minerals. Understand the maninerals. Understand megas minerals. Understand megas minerals. Describe the megas group of Minerals. Describe microscoldentify the various crystal models. Assess the miller identify Twining.	his course, the students will be able egascopic properties of Quartz and egascopic properties of pyroxene g scopic properties of Amphibole groascopic properties of olivine and M s. opic identification of minerals. as crystal Systems and Symmetry to Indices of the crystal models in crystals.	Feldspar roup of oup of
6	Credit Value	I Credit	(Credit=30 hour	rs Laboratory or Field learning/	
7	Total Marks	Max. Marks		Min Passing Marks: 20	
P	art B: Content of the Course			171111 1 dooing warks: 20	
1	Total No. of learning	g-Training/per	formance Period	ds: 30 Periods (30 Hours)	1
H	Module		opics (Course con		No. of
E	Lab./Field Training/ Experiment Contents of Course, 1) Microscopic 2) Plotting of in	study of minera portant minera	als and rocks,	outline map of India.	Period 30

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Text Books, Reference Books, Others

- 1. Gribble. Rutley's Elements of Mineralogy. CBS, 2005.
- 2. Ford W.E.; Dana's Text Book of Mineralogy .CBS, 2006.
- 3. Perkins, D.; Mineralogy, Prentice Hollandia, 3rded.2012.
- 4. Rathore, B.S.; Basics of Crystallography, Mineralogy and Geochemistry . Notion Press in dia,2020
- 5. Sharma, RS. And Sharma, Anurag; Crystallography and Mineralogy- Concept sand Methods. Geol. Soc. Ind., Bengaluru, 2013.

e-resources:

- htms://www.mindat.org
- htms://mvw.mooc-list.com/tags/minerals
- htms://el!gl!.inflibnet.ac.in/Home
- htms://archive.orgldetails/in.ernet.clli.2015.233340/l!age/n15/mode/2ul! 5. htms://e'i:,y_ankosh.ac.in/
- 6. htms://sites.google.com/i ou.ac.in/bscgeology
- 7. SWAYAM-https://swayam.gov.in/explorer?searchtext
 8. National digital library httlls://ndl.iitkgll.ac.in
- 9. e-PG pathshala (MHRD) portal, httl!s://egl!g.inflibnet.ac.in

and Evaluation		
Evaluation Methods:		
essment(CIA):15 Marks End		
5 Marks		
Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar+Attendance - 05 Total Marks -15	+obtained marks in Assignm	ent shall be
Laboratory/ Field Glaup		uks
E. Spotting based on tools & technology	work - 20 Marks	Managed by Course teacher as per lab.
	Evaluation Methods: Iarks Essment(CIA):15 Marks End Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks -15 Laboratory/ Field Skill Perform D. Performed the Task based on lab. E. Spotting based on tools & technology	Evaluation Methods: Iarks Essment(CIA):15 Marks End Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks -15 Better marks out of the two 1 + obtained marks in Assignm considered against 15 Ma Laboratory/ Field Skill Performance: On spot Assessment D. Performed the Task based on lab. work E. Spotting based on tools & technology (written)- IO Marks F. Viva-voce (based on principle technology)

Name and Signature of Convener & Member CBoS:

FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY COURSE CURRICULUM

PAR	RT-A: Introduction	COURSE CURRICULUM		
Առօք	gram: Bachelor in Science tificate/Diploma/Degree/Honor	Semester: II	Session:2025-2026	
1	Course Code			
2	Course Title	GEO	GE-02T	
3	Course Type	The state of the s	ls of Geology	
4	Pre-requisite (if any)	Discipline Elective	Course	2 - 4
5	Course Leave	As per progr	am.	
Outcomes (CLO) After successfully completing this course, the Explain about the basics of crystallographic axes and symmetry elements of the course of the course of the crystallographic axes and symmetry elements of the course of the cours		ourse, the students will be able a allography, various crystal form etry elements. al classes of various crystal syst silicate groups and explain the	ns,	
6	Credit Value	Describe the optical characteristi	cs of various minerals. arning & observation)	
	Total Marks RT- B: CONTENT OF THE CO	Max. Marks: 100	Min Passing Marks : 40	
E. J.		g Periods (01 hour per period)- 45 Pe	wip J = /45 TT	
Uı	nit	Topics (Course Contents)	riods (45 Hours)	
	Mineralogy Deficiency			No.o
	1	Mineral, Mineral Classification (Ore for ical, chemical and optical properties of n	ninerals.	11
Silveria.	II Shieate Structure and its ty	n of Crystal, Crystal Lattice, Classif pes along with mineral examples.	Production general section exceptible section	. 11
30	III Petrology: Rock Cycle. Ty Metamorphic and Sedimen Metamorphic and Sedimen	pes and Mode of formation of different stary) and their properties. Texture and Stary rocks.	Rocks (Igneous, structure ofigneous,	12
		neous Rocks. Classification of Sedime es and Agents of Metamorphism.	entary Rocks: Clastic, non-	11

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Part - C: Learning Resource

Text Books, Reference Books, Others

Text Book

- 1.
- 2.
- 3.

Reference Books

- 4. Gribble, C.D. Rutley's Elements of Mineralogy. CBS, 2005.
- 5. FordW.E.; Dana's TextBookofMineralogy.CBS, 2006.
- 6. Perkins, D.; Mineralogy, Prentice Hallindia, 3rded.2012.
- 7. Rathore, B.S.; BasicsofCrystallography, MineralogyandGeochemistry. Notion Pressin dia,2020
- 8. Sharma, R.S. and Sharma, Anurag; Crystallographyand Mineralogy-Concepts and Methods. Geol. Soc. Ind., Bengaluru, 2013.

e-resources:

- 1. https://www.mindat.org
- 2. https://www.mooc-list.com/tags/minerals
- 3. https://engp.inflibnet.ac.in/Home
- 4. https://archive.org/details/in.ernet.dli.2015.233340/page/nl5/mode/2up
- 5. https://egyankosh.ac.in/
- 6. https://sites.google.com/ignou.ac.in/bscgeology
- 7. SWAYAM-https://swayam.gov.in/explorer?searchtext
- 8. National digital library https://ndl.iitkgp.ac.in
- 9. e-PG pathshala (MHRD) portal, https://egpg.inflibnet.ac.in

PART- D: Assessment a	nd Evaluation		
Suggested Continuous E	valuation Methods:		
Maximum Marks: 50 Ma	rks		
. Continuous Internal Asses	sment(CIA):15 Marks End		
Semester Exam (ESE): 35	Marks		*
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test/ Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks -15	Better marks out of the two T +obtained marks in Assignm considered against 15 Ma	ent shall be
End Semester Exam (ESE):	A. Performed the Task based on lab. v B. Spotting based on tools & technology C. Viva-voce (based on principle/technology)	work -20 Marks (written)- IO Marks	Managed by Course teacher as per lab.
			status

Signature of Convener & Members (CBoS):

FOUR YEAR UNDERGRADUATE PROGRAM(2025-26) DEPARTMENT OF GEOLOGY COURSE CURRICULUM

rog	ART-A: Introduction ogram: Bachelor in Science ertificate/Diploma/Degree/Honor		Semester: II	Session:2025-2026	
T	Course Code		GEGE-02P		
+	Course Title	6.4	La	ab. Course -02 (Essentials of Geology)	
	Course Type	1.75 25	Disci	ipline Elective Course	
	Pre-requisite	(if any)		As per program	
	Course Learn		After successfully con	mpleting this course, the students will be able to:	
'	Outcomes (CI	Understand the megascopic properties of Quartz and Fe group of minerals			
			Understa minerals	and the megascopic properties of pyroxene group of s	
			minerals	=	
		·	group of	escribe the megascopic properties of olivine and Mica oup of Minerals. escribe microscopic identification of minerals.	
es into s			• Assess t	the various crystal Systems and Symmetry through models the miller Indices of the crystal models Yumining in crystals.	
6	Credit Valu		I Credit (Cred	lit=30 hours Laboratory or Field learning/	
0	Credit valu		Traini		
7	Total Mark	s	Max, Marks: 50	Min Passing Marks: 20	
F	Part B: Content	of the Course		A 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	То	tal No. of learnin	g-Training/performan	nce Periods: 30 Periods (30 Hours)	
1	Module		and the second s	Course contents) No. o Perio	
	Lab./Field Training/ Experiment	Microscopic Plotting of in	study of minerals and i	rocks. sits on the outline map of India.	
1	Contents	/ 1/47 Tan			

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	Text Books, Reference Books,	6.4	
-	Text Books, Reference Books,	Others	
1. 2.			
3.			
3. 4.	•		
			. 10
5. Gribble, C.D.	Rutley's Elements of Mineralogy. CBS, 2005.	Comment of the Commen	
o. Ford W.E.; Da	ina's TextBookofMineralogy CDG 2006	•	
7. Perkins, D.;	Mineralogy, Prentice Hallindia 2-d-10046	•	
o. Kalliore, B.S.	BasicsofCrystallography Minante		
9. Sharma, R.S.	andSharma, Anurag; CrystallographyandM	cochemistry. Notion Pressin dia	,2020
Conceptsand	Methods. Geol.Soc. Ind., Bengaluru, 2013.	ineralogy-	
e-resources:			
1 1222	•		
1. htt(!s://www.mi	ndat.or2		
2. htt/ls://www.mo	oc-list.com/ta2s/minerals		
J	hlief an in/Un-	-	
5. htt(!s://egY.,anko	r2/details/in.ernet.dli.2015.233340/l!a2e/nl5/m	ode/2ul!	
6. htt(!s://sites.goog	e.com/ignou.ac.in/bscgeology		
OWATAM-DIDS:	//SWavam gov in/avmland		
9. e-PG pathshala	MHRD) portal, htt(!s://eg(!g.inflibnet.ac.in		
	e (B.—oriot.ac.iii		
177			
ART-D: Assessment	and Evaluation		
uggested Continuous E	valuation Methods:		
faximum Marks: 50 M	arks .		
ontinuous Internal Asses	ssment(CIA):15 Marks End		
emester Exam (ESE): 35	Marks		
ontinuous	Internal Test/ Quiz-(2): 10 & 10		
	Zuiz-(2). 10 & 10	Retter marks and Cul	

PART-D: Assessment as Suggested Continuous Ex Maximum Marks: 50 Maximum Maxi	valuation Methods:		
	sment(CIA):15 Marks Fnd		
Continuous InternalAssessment (CIA): (By Course Teacher) End Semester Exam	Internal Test/ Quiz-(2): 10 & 10 Assignment/Seminar+Attendance - 05 Total Marks -15	considered against 15 Ma	ent shall be
(ESE):	Laboratory / Field Skill Perform D. Performed the Task based on lab. v E. Spotting based on tools & technology F. Viva-voce (based on principle/technology) vener & Members of CBoS:	vork - 20 Marks	Managed by Course teacher as per lab. status

FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY

PAR	RT-A: Introduction	OURSE CURRICULUM	the state of the state of	
Prog Scier (Cer	ram: Bachelor in	Semester: 11/IVNN	Session:2025-20	026
	Course Code			7
2	Course Title		SEC -01	
3	Course Type	RAINWATE	R HARVESTING	
4 Pre-requisite(if any)		Skill Ennancem	ient Course (SEC)	į.
	Course	As per Go	vernment norms	
	Learning	On completion of Course	, the students should be a	able to
- 1	Outcomes	1 Define kovission	And Property Control	
	(CLO)	and Princip Jes	ater harvesting concepts, te	rms,
			rainwater harvesting pote	
		and water uses	aniwater narvesting pote	ntial
			ecisions about what feature	
		 3. Make strategic decisions about what features and systems to use for a site 4. Design a conceptual integrated rainwater harvesting plan for a site 		
	A			
-		5. Refine a concept with relevant Sy!	ual rainwater harvesting	plan
6	Credit Value	2 Credits (Credit=30 ho		tion)
7	Total Marks	Max. Marks: 50	Min Passing Marks	
. 41		RT- B: CONTENT OF THE		
- '	Total No. of Teaching-lear	ming Periods (01 hour per p	eriod)- 30 Periods (30 H	lours)
Un	nit	Topics (Course Contents)		No.of
				Period
	 I) Water and its distributed 2) Water cycle 3) Rain Water Harvesti 4) Rain Water Harvesti 	ng - Concepts & Terms		15
-	1) Selection Procedure for	or Rain Water Harvesting Site		15
١,	2) Rain Water Runoff, R	unoff Coefficient, Infiltration		13
. 1 4	II) Roof Rain Water Harvesting system 14) Government Policies regarding Rain Water Harvesting system			

Part- C

Learning Resource: Text Books, Reference Books, Others

Text Books Recommended-

- 1. CPWD Rain Water Harvesting & Conservation Manual -2022 Prabhakar Singh A Puri Publication
- 2. Rainwater Harvesting for Drylands and Beyond, Volwne 1,3rd edition" Rainsource Press. 2019 Lancaster, Brad
- 3. Rainwater Harvesting: In Urban Centers within the Hard Rock Terrain of the Deccan Basalt of ndia, Dr. Anil LALWANI Springer International Publishing AG 2021

Online Resourses

http://www.rainwaterharvesting.org/

PART-D: Assessmen	it and Evaluation	-Theo:	ry	
Suggested Continuou	s Evaluation Met	hods:		
Maximum Marks:		50 M	Iarks	
Continuous Internal A	ssessment(CIA):	15 M	farks	
End Semester Exam (ESE):	35 M	arks	
Continuous	Internal Test / Q	uiz-(2):	5+5	Better marks out of the two Test /
Internal Assessment (CIA): (By Course Teacher)	Assignment/ Ser Total Marks - 30	ninar-	5	Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam	Two section - A	& B		
	Section A: Ql. Ob 5x2=10Marks	jective-		Mark; Q2. Short answer type,Sout of 3 from each unit-3x5=15

Name and Signature of Convener& Members of C BoS:

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FOUR YEAR UNDERGRADUATE PROGRAM (2024) DEPARTMENT OF GEOLOGY COURSE CURRICULUM

PA	RT-A: Introduction		Session:2025-2026		
Pro (Di	gram: Bachelor in Science ploma/Degree/Honors)	Semester: IV			
1	Course Code	Fig. 3.	ESC-04T		
2	C ourse Title	SEDIMENTARY PETROLOGY EVOLUTION	& CRUSTAL		
3	Course Type	Discipline Specifi	c Course		
4	Pre-requisite (if any)	-requisite (if any) As per program			
Course Learning Outcomes (CLO)		On completion of Course, the students should be able to - • Discuss about the formation of sedimentary rocks, their texture structures • Explain classification of sedimentary rocks, • Identify, describe and classify sedimentary rocks using hand specimens • The formation of sedimentary rocks, their textures and structures.			
	Credit Value	3 Credits (Credit=15 hours-	learning & observation)	.	
6		Max. Marks: 100	Min Passing Marks: 40		
7	Total Marks T-B: CONTENT OF THE		_ 20		
AF	T-B: CONTENT OF THE	The tate (01 hour per period)- 45)	Periods (45 Hours)		
- 5	Cotal No. of Teaching-learni	ng Periods (01 hour per period)- 45		No.	
Un	it	Topics (Course Contents)		Period	
	Sedimentary Petrology:	in of Sediments			
1	(1) Origin, Transports (2) Sedimentary Depo	ation, and Deposition of Sediments ositional Environment - Acolian ositional Environment - Fluvial ositional Environment - Coastal		1.3	
	(5) Sedimentary Depo	OSITIONAL ESTATE		12	
	Sedimentary Petrologi 1. Sedimentary Fa	acies .			
	a Tithification an	IO Diagonora		- 61- 15 to	
I	1 a Toybire and SII	Incimes or some	Clastic, Biogenic	3 ×	
	4. Classification of	of Sedimentary rocks-Sha	ale, Sandstone, Limestone,		
	5. Petrogenetic uc	cia, Conglomerate, Siltstone		10	
				שנו	
	Crustal Evolution: 1. Crust, Mantle, c	oore , simental rift		100	
	2 Oceanic ridges	, Mantie plume, Comme		4	
I	II a Conton ATC SVS	Leiu 🦂			
	4. Orogeny, plate	Lectomes			
	5. Hotspots			12	
	Crustal Evolution:	t- Formation, Cycle, Break up, Mantl	e plume events		
	2 Continental Gro	OWINS			
	V 3 Continental Gro	owth rates			
1		The state of the s	No. 1		
1	4. Mantle Plume e	events throughout Earth History ad its relation to its Evolution in crustal	I Growth		

FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY COURSE CURRICULUM

AR	T-A: Introd	uction				
Program: Bachelor in Science (Diploma/Degree/Honors)		Semester: IV Session:2025-2O26			7 "2	
Course Code			GESC-04P		,	
2	Course Ti	tle	Lab. Course - 04 (Sedimentary Petrology & Crustal Evolution)			ution)
3	Course Ty	ne		Discipline Spe	ecific Course	
4		site (if any)			program	
5 Course Learning Outcomes (CLO)		On completion of Course, the students should be able to - Identify the Sedimentary rocks in hand specimens and thin sections.				
6 Credit Value		I Credit	(Credit=30 hour Training)	rs Laboratory or Field learning/		
7	Total Ma	ırks	Max. Marks:	: 50	Min Passing Marks: 20	1.
	at Pa Canta	nt of the Course				-
10	Tr B. Conte	Total No. oflearni	ng-Training/peri	formance Period	s: 30 Periods (30 Hours)	
·	Module		* \$100 OK	opics (Course co	the second secon	No. of
Experiment (2) M Contents (3) D of Course, (4) D			studies of various c representation o c representation o	sedimentary rock	s. cs. es of sedimentary ovinces ofIndia in outline map of	30

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Part - C: Learning Resource

Text Books, Reference Books, Others

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- 2. "FIIII_(:;___C)R{o- .-.ft. .r (')IJB
- Principles of petrology G.W. Tyrell
 Petrology-H. William, F.J. Turner & E.M. Gilbert
- A text book of sedimentary petrology -Verma& Prasad
- Sedimentary rocks -F.J. Pettijohn
- 7. Introduction of sedimentology -S. Sengupta
- 8. Sedimentary environment -H.G. Readings
- 9.petrology of sedimentary rocks: Sam bog
- 10. Earth as an evolving planet system: Kent C. Condie

E-resources

July while

- 1. https://epgp.inflibnet.ac.in/Home
- https://archive.org/details/in.emet.dli.2015.233340/page/nl S/mode/2up
- https://egyankosh.ac.in/
- 4. https://sites.google.com/ignou.ac.in/bscgeology
- 5. SWAYAM-https://swayam.gov.in/explorer?searchtext
- 6. National digital library https://ndl.iitkgp.ac.in
- 7. e-PG pathshala (MHRD) portal, https://egpg.inflibnet.ac.in

	PART- D: Assessment ar	nd Evaluation		
	Suggested Continuous Ex	valuation Methods:		
	Maximum Marks: 50 Mar	rks		
	Continuous Internal Assess	sment(CIA):IS Marks End		
	Semester Exam (ESE): 35	Marks	and the same	
	Continuous	Internal Test / Quiz-(2): 10 & 10	Better marks out of the two T	-
	InternalAssessment	Assignment/Seminar + Attendance - 05 Total Marks - 15	+obtained marks in Assignm	
	(CIA):	CI- SAIBIVI	considered against 15 Ma	ırks
	(By Course Teacher)		*	
	End Semester Exam	Laboratory/ Field Skill Perforn	nance: On spot Assessment	Managed
	(ESE):	A. Performed the Task based on lab.	work - 20 Marks	by Course
-		B. Spotting based on tools & technology	(written)-10 Marks	teacher as
		C. Viva-voce (based on principle/technology	ogy) - OS Marks	per lab.
. 1		/		status '

Name and Signature of Convener & Members of CBoS:



FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY

Cel	runc	: Bachelor in Geology ate/Diploma/Degree)	Semester: IV	Session:2025-202	16
1	Course Code			2023-202	46
2		urse Title	GESE	-02T	-
3	Cor	arse Type	ENVIRONMENT Discipling Elect	AL GEOLOGY	
4.	Pre	-requisite (if any)	Discipline Elective	Course	
5	Co	urse Learning	As per proces		
	Ou	tcomes (CLO)	demonstrate the acquisition of	e students will be able to	0
6	Cr	edit Value	1) Understand basics of climatolo 3 Credits (Credit=1.5 have	gy and oceanography	
7	To	tal Marks		earning & observation)	
	-e.		Max. Marks: 100(70+30)	Min Passing Marks: 4	0
		PAT	OT D CO.		
	To	tal No. of Teaching-le	RT-B: CONTENT OF THE COU	JRSE	
Uı	nit		ming Periods (01 hour per periods)	od)- 45 Periods (45 Ho	urs)
	*		Topics (Course Contents)	, et a	No.
		1.1 Concept of ecosyste		100 mm (100 mm) (100 mm) (100 mm)	Perio
	7	1.1 Concept of ecosystem/ ecology, concept of environmental geology 1.2 Nature and its degradation			
Trap.	T	1.3 Impact of man and	idalion.	and the second second	
-	_	1.4 Environmental law	daturai system		10
7.	t male	2.1 Conservation princ	s, environmental policies if the coun	itry	
1500			iple, conservation of mineral and full and water recourses		12
-	П	2.3 Problem pertaining	to urbanization causes and 1	20	
_		2.411001cm pertaining	to wasteland and wetlands		
		3.1 Human modification	on of nature in surface and subsurface	e by engineering	11
		Constitution Dams, Re	eservoirs. Bridges and Buildings		11
	тт	3.2 Human settlement	and contamination of atmosphere so	oil, surface water and	
	Ш	3.3 Global warming	UISDOSAL and agro industries		
,		3.4 Drought, Desertific	cation and salinization		
1	ė.	!Natural hazards measu	re and mitigation: -	25 1/3	11
2		4.1 Landslides, volcan	ic activity, earthquake	TYP * III	11
1		4.2 river flooding, cyc	lones, tsunami,		i,
- 1		4.3 Erosion and coasta	uerosion		100
- 1	IV	4.4 Marine transgression	on and regression	_	

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Part-C

Learning Resource: Text Books, Reference Books, Others

Text Books Recommended-

Bryant, E. (1985): Natural Hazards, Cambridge Univ. Press.

- Keller, E.A. (1978): Environmental Geology, Bell and Howell, USA.

-Nagabhushaniah, H.S. (2001): Goundwater in Hydrosphere, CBS Puhl.

- Perry, C.T. and Taylor, K.G. (2006): Environmental Sedimentology, Blackwell Puhl.

- Singh, S. (2001): Geomorphology, Pustakalaya Bhawan, Allahabad. -Todd, D.K. (1995): Groundwater Hydrology, John Wiley and Sons.

- Valdiya, K.S.(1987): Environmental Geology-Indian Context, Tata McGraw Hill.

PART-D:Assessmen	t and Evaluation -Theory	
Suggested Continuo Maximum Marks: Continuous Internal A End Semester Exam (us Evaluation Methods: 100 Marks Assessment(CIA): 30 Marks	
Continuous Internal Assessment (CIA): (By CourseTeacher)	Internal Test I Ouiz-(2): 20 +20	Better marks out of the two Test I Quiz + obtained marks in Assignment shall be considered against 30 Marks
End Semester Exam (ESE):	Two section - A & B Section A: QI. Objective- IO xI=10 M =20Marks Section B: Descriptive answer type qts., Marks	Tark; Q2. Short answer type- 5x4

Name and Signature of Convener & Members of CBoS:

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FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY COURSE CURRICULUM

Pro (Ce	gram: Bac	chelor in Geology	Se	emester: IV			
(- (Certificate/Diploma/Degree)			Session:2025		026	
1	Course (Code					
2	Course '	Title			GESE-02P		
3	Course		- Village of the Control of the Cont	ENVIRON	MENTAL GEOLOGY		
4		uisite (if any)	Discipline Elective Course				
5				Asna	1 1000		
	5 Course Learning Outcomes (CLO)		1. Understand the environment this course, the students will be able to				
			12. Describe the geological aspect of interaction between environment and geological processes 3. Explain Mitigation of pollution. 4. Describe Environmental management plan				
6	Credit		of the second second	1	ours Laboratory or Field le	arning/	
7	Total M		Max. Ma	rks: 50	10. 7.01	10 A	
P		ntent of the Cou	rse		Min Passing Marks		
		Total No. oflear	ning-Traini	ng/performance	e Periods: 30 Periods (30		
. 1	Module	The state of the s					
Lab./Field Case study of any E		Invironmenta	Copies (Course	contents)	No. of		
arming, land ar inour Bardo		z.	r project in nearby	area allotted by			
Experiment Contents of Course,						30	

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Part-C

Learning Resource: Text Books, Reference Books, Others

Text Books Recommended-

Bryant, E. (1985): Natural Hazards, Cambridge Univ. Press.

- Keller, E.A.(1978): Environmental Geology, Bell and Howell, USA.
- Nagabhushaniah, H.S. (2001): Goundwater in Hydrosphere, CBS Publ.
- Perry, C.T. and Taylor, K.G. (2006): Environmental Sedimentology, Blackwell Pub). Singh, S. (2001): Geomorphology, Pustakalaya Bhawan, Allahabad.
- Todd, D.K. (1995): Groundwater Hydrology, John Wiley and Sons.
- Valdiya, K.S.(1987): Environmental Geology-Indian Context, Tata McGraw Hill.

PART-D:Assessmen	nt and Evolvett	
Juggested Confinmo	me Frale.	150
The state of the s) Marks	1940
Continuous Internal	A scacemont(CTA) 11 -	
- TAMOSTOI L'AMIII	(ESE): 35 Marks	
Internal Assessment A (CIA): (By Course Teacher)	Internal Test/ Quiz-(2): 10 & 10 Assignment/Seminar +Attendance - 05 Total Marks -11 Better marks out of the two- +obtained marks in Assi be considered agains	gnment shall
End Semester Exam (ESE):	D. Performed the Task based on lab. work -20 Marks E. Spotting based on tools & technology (written) - 10 Marks F. Viva-voce (based on principle/technology) - 05 Marks	Managed by Course teacher as per lab.
lame and Signature of C	Onvionan C 75	status

Name and Signature of Convener & Members of CBoS:

FOUR YEAR UNDERGRADUATE PROGRAM (2025-26) DEPARTMENT OF GEOLOGY

P	ART-A	: Introduction	OURSE CURRICULUM	
		: Bachelor in		
	cience	i. Dachelor m	Semester: 11/IVNN	Session:2025-2026
1		ate/Diploma/Degre		023-2020
e/	Honor	s)		
1		irse Code		
. 2	_	arse Title	GESEC	
3	_	urse Type	RAINWATER H	ARVESTING
4		e-requisite(if any)	Skill Enhancement	Course (SEC)
5		urse	As per Govern	iment norms
	1 00	arning	On completion of Course, the	students should be able to
321	1	arning itcomes		
1			1. Define key rainwater 1	harvesting concepts, terms,
	100	LO)	and Princip Jes	
		5 A A	2. Assess a site for rainv	water harvesting potential
1			and water uses	
1	. 15			ons about what features and
			systems to use for a s	1
			4. Design a conceptual	integrated rainwater
1	_		harvesting plan for a	
	1		o. Refine a conceptual with relevant Sy! Item	rainwater harvesting plan
		Credit Value	and the second s	
	7 7	Total Marks		Min Passing Marks: 20
	in .		RT- B: CONTENT OF THE COU	
	T	otal No. of Teaching-	arning Periods (01 hour per perio	d)- 30 Periods (30 Hours)
	Uni	t	Topics (Course Contents)	No.of
		Time)		Period
	1	l) Water and its dis	ibution	
	I	2) Water cycle 3) Rain Water Hary	esting - Concepts & Terms	15 .
		4) Rain Water Harv		for the second
			e for Rain Water Harvesting Site	
		2) Rain Water Runo	, Runoff Coefficient, Infiltration	15
	I	-) Itool Itum Water	Investing system	
		14) Government Poli	ies regarding Rain Water Harvesting sys	stem

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Part- C

Learning Resource: Text Books, Reference Books, Others

Text Books Recommended-

- 1. CPWD Rain Water Harvesting & Conservation Manual -2022 Prabhakar Singh A Puri Publication
- 2. Rainwater Harvesting for Drylands and Beyond, Volwne 1, 3rd edition" Rainsource Press. 2019 Lancaster, Brad
- 3. Rainwater Harvesting: In Urban Centers within the Hard Rock Terrain of the Deccan Basalt of ndia, Dr. Anil LALWANI Springer International Publishing AG 2021

http://www.rainwaterharvesting.org/

PART-D: Assessment Suggested Continuous Maximum Marks: Continuous Internal A End Semester Exam (1)	20171	
Confinuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 5+5 Assignment/ Seminar- Total Marks - 30	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered
End Semester Exam (ESE):	Two section - A & B Section A: Ql. Objective- to xl= 10 M 5x2=10Marks Section B: Descriptive answer type qts., Marks	against 15 Marks Mark; Q2. Short answer type-

Name and Signature of Convener& Members of C BoS:

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DEPARTMENT OF GEOLOGY

GOVT. DIGVIJAY AUTONOMOUS COLLEGE, RAINANDGAON (C.G.)

B.Sc. - VI Semester Geology 2025-2026

DSC - Economic Geology

Caralana Doct o	1 1
Session : 202 -2	Program: B.Sc.
Semester : VI	Subject : Geology
Course Type : DSC	Course Code:
Course Title:	ECONOMIC GEOLOGY
Credit: 3	Lectures: 45
M.M. 100 = (ESE 80+IA 20)	Minimum passing Marks: 40%

Course outcome(CO):- On completion of course, the students should be able to

- 1. Explain about the formation of mineral deposits
- 2. Demonstrate the distribution of mineral resources.
- 3. Discuss the Classification of the mineral deposits
- 4. Outline the various mineral resources of India
- 5. Understand about the origin, occurrence and properties of Coal
- 6. Discuss the age and occurrences of the coal
- 7. Explain about the petrography of Coal
- 8. Outline the origin and occurrences of the Petroleum

Theory Core	Unit &	Contents.
Course : I Course Name : Economic Geology	Hours	The state of the s
Credits: 3	1 - 11	Economic Geology introduction & its perspectives; Global mineral deposit & resource.
Lecture 45		Distribution of mineral deposits in time & space. Classification of mineral deposits. Geological thermometers. Magmatic & Hydrothermal processes of mineral formation.
	11-11	Weathering products & Residual deposits. Oxidation & supergene sulphide enrichment processes. Sedimentary processes of ore formation. Placer deposits.
Leg	III - 11	Geological and Geographical distribution, mode of occurrence and mineralogy of Iron Manganese, Chromlum, Copper, Lead, Zinc, Gold and Aluminium ore deposits of India.
	IV - 12	Refractory and Fertilizer minerals. Minerals used in cement & chemical industries. Co deposits: Origin, Definition & stratigraphy. Fundamentals of coal petrography. Peat, Lignit Bituminous & Anthracite. Indian coal deposits.

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Text Books, **Text Books Recommended:** Reference Books ((1) आर्थिकभूविज्ञान--कृष्णगोपालव्यास & E-resources (2) आर्थिक एवय्यायहारिकभूविज्ञान—आर.पी. गांजरेकर (3) प्रायोगिकभूविज्ञान भाग-3-गुप्ता, पुनवटकर (4) Economic mineral deposits of India- Umeshwar Prasad. (5) Economic mineral deposits- A.Bateman (6) Ore-deposit of India- Gokhale & Rao Reference Books: India's Mineral Resource- S. Krishnaswami Online Resources: (e- Resources/ e- Books/ e- Learning Portals) https //egyankosh.ac.in

Economic Geology lab Course

	Economic Geology is	Program : B.Sc.
Session : 2025-2:6		Subject : Geology
Semester : VI		Course Code:
Course Type : DSCLAB		ECONOMIC GEOLOGY LAB
. Course Title:	10127 A.	30 hours
Credit: 1	4231111	Minimum passing Marks: 40%
M.M. 50	14.	Minimum passing Market

Course Lerning Outcome (CLO): On completion of Course, the students will be able to

- 1. Identify ore forming minerals in hand specimen.
- 2. Identify nonmetallic minerals of economic importance in hand specimen.
- 3. Demarcate ore deposits and economic mineral deposits in Outline map of India.
- 4. Demarcate coal fields in outline map of India.
- 5. Demarcate petroleum fields in outline map of India.
- 6. Demarcate radioactive mineral deposits in outline map of India.

Lab Course	•	Topics Topics on the basis of physical properties on the physical properties on the physical properties on the physical properties on the physical properties of the physical properties on the physical properties of the physical properti	operties.	14.7
Î.		Study of Important metallic and nonmetallic minerals on the basis of physical pro-		
	<u> </u>	Distribution of important metallic deposits within outline map of India.		
		Plotting of various non metallic mineral deposits on the outline map of India.	A.	•
		Plotting of various coal fields and petroleum field on the outline map of India.	42.1	
			+ F	
		Plotting of various radioactive mineral deposits on the outline map of India.	A STATE OF THE STA	

Text Books,	TEXT BOOKS Recommended:
Reference Books	प्रायोगिकभूविज्ञान भाग–3–गुप्ता. पुनवटकर
& E-resources	Economic mineral deposits of India- Umeshwar Prasad.
	Ore-deposit of India- Gokhale & Rao
	Online Resources: (e- Resources/ e- Books/ e- Learning Portals)
	https://egyankosh.ac.in

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StudentMarking System of Theory

4 Credits - 100 marks

Internal - 20 Marks

External - 80 Marks - Very Short Answer Questions - 16 Marks (8 Ques. *2 Marks).

Short Answer Questions - 24 Marks (4 Ques. *6 Marks).

Long Answer Questions - 40 Marks (4 Ques. *10 Marks)

Marking System of Practical

2 Credits - 50 Marks

Internal - 10 Marks

End Term Exam - 40 Marks.

Written (30 Marks) + Record (5 Marks) + Viva (5 Marks).

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DEPARTMENT OF GEOLOGY

GOVT. DIGVIJAY AUTONOMOUS COLLEGE, RAJNANDGAON (C.G.)

B.Sc. - VI Semester Geology 2026-2026

Session: 2025-2.6	201084 5053-5058
Semester : VI	Program : B.Sc.
	Subject : Geology
Course Type : DSE-I	Course Code:
Course Title:	GEOLOGY & MINERAL RESOURCES OF CHHATTISGARH
Credit : 3	Lectures : 45
M.M. 100 = (ESE 80+IA 20)	Minimum passing Marks: 40%

Course Outcome(CO):- On completion of course, the students should be able to

- Understand the distribution of geological formations of Chhattisgarh state
- Describe the mode of occurrence of mineral deposits in Chhattisgarh state
- Discuss about the scope for mineral based industries in Chhattisgarh
- Demarcate the geological formations in the map of Chhattisgarh
- Demarcate the distribution of mineral deposits in the map of Chhattisgarh.
- Discuss origin, mode of occurrence and distribution of radioactive minerals in India.

,		The state of the s
Theory Core	Unit &	Contents
Course: I Course	Hours	Someths and the second
Name :Geology and Mineral Resources of Chhattisgarh Credits : 3	I - 12	Summary of Geological formations of Chhattisgarh. Geological map of Chhattisgarh. Archaeozoic formations of Chhattisgarh: Sukma and Bengpal Groups, Bhopalpatnarn Granulite Belt, Bailadila Group, Kotri- Dongargarh Belt. Sonakhan Group, Abujhmar Group, Khairagarh Group, Nandgaon Group, Kanker Granite and Dongargarh Granite.
Lecture 45	II - 11	Chhattisgarh Supergroup, Indravati Group, Rock formations of Gondwana Supergroup, Ulnaria and Manendragarh marine beds, Deccan Trap
	III - 11	Geology, mineralogy and sallent features of Iron ore deposits of Chhattisgarn. Bauxite deposits of Chhattisgarh. Tin deposits of Chhattisgarh, Radioactive minerals and REE in Chhattisgarh
	IV - 11	Geology, mineralogy and salient features of limestone and dolomite deposits of Chhattisgarh, coal deposits of Chhattisgarh, mica deposits of Chhattisgarh, precious and semiprecious minerals in Chhattisgarh, fertilizer minerals in Chhattisgarh

Text Books,	Text Books Recommended:
Reference Books	Economic mineral deposits of India- Umeshwar Prasad.
& E-resources	Ore-deposit of India- Gokhale & Rao
	Geology and Mineral Resources of Chhattisgarh: Geological Survey of India, Miscellaneous Publication No. 30.
	Reference Books: Geology and Mineral Resources of Chhattisgarh H. M. Ramachandra and Avisekh Ghosh. Geological

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Society of India,

Online Resources: (e- Resources/ e- Books/ e- Learning Portals)

https://www.researchgate.net/publication/362705237_Mineral_Resources_of_Chhattisgarh_-A_Perspective

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Geology and Mineral Resources of Chhattisgarh Labcourse

Session: 2026-26	Program : B.Sc.
Semester : VI	Subject : Geology Course Code: GEOLOGY & MINERAL RESOURCES OF CHHATTISGARH
Course Type: DSE-ILAB	
Course Title:	
1	LAB
Credit: 1	30 hours
M.M. 50	Minimum passing Marks: 40%

Course Lerning Outcome (CLO): On completion of Course, the students will be able to

- 1. Demarcate geological formations on the outline map of Chhattisgarh
- 2. Demarcate various mineral deposits on the outline map of Chhattisgarh
- 3. List out major and minor minerals occurring in Chhattisgarh

Discuss the specifications of minerals used in various mineral based industries

Lab Course	Topics
1 	Study of geological map of Chhattisgarh and plotting of various formations in outline map of Chhattisgarh
2	Plotting of various metallic mineral deposits in the map of Chhattisgarh
3	Plotting of Coal deposits & gem mineral occurrences in outline map of Chhattisgarh
4	Preparation of List of major and minor minerals and tabulation of their reserves in Chhattisgarh
S	Preparation of charts of specification of minerals used in Cement industry, Ferro-alloy industry, Steel industry, Aluminium based industry, Ceramic and fertilizer industry

Text Books,	TEXT BOOKS Recommended:
Reference Books	Drury, S.A., 1987: Image interpretation in Geology. Allen and Unwin.
& E-resources	Lillesand, T.M. and Kleffer, R.W., 1987: Remote Sensing and Image Interpretation. John Wiley.
	Pandey, S.N., 1987: Principles and Applications of Photogeology. Wiley Eastern. New Delhi.
, 2000 ₁	Gupta, R.P., 1990: Remote Sensing Geology. Springer Verlag
	Reference Books:
	Miller, V.C., 1961: Photogeology. McGraw Hill.
	Sabbins, F.F., 1985: Remote Sensing- Principles and Applications. FreemanOnline Resources: (e- Resources/
	e- Books/ e- Learning Portals)

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https://natural-resources.canada.ca/maps-tools-and-publications/satellite-imagery-elevation-data-and-air-photos/tutorial-fundamentals-remote-sensing/9309

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StudentMarking System of Theory

4 Credits – 100 marks

Internal - 20 Marks

External – 80 Marks – Very Short Answer Questions – 16 Marks (8 Ques. *2 Marks).

Short Answer Questions – 24 Marks (4 Ques. *6 Marks).

Long Answer Questions – 40 Marks (4 Ques. *10 Marks)

Marking System of Practical

2 Credits – 50 Marks

Internal – 10 Marks

End Term Exam – 40 Marks.

Written (30 Marks) + Record (5 Marks) + Viva (5 Marks).

DEPARTMENT OF GEOLOGY

GOVT. DIGVIJAY AUTONOMOUS COLLEGE, RAJNANDGAON (C.G.)

B.Sc. - VISemester Geology 2027-202

2025.20	Program : 8.Sc.
Session: 2025-26	A. Liert . Coology
Semester : VI	Subject : Geology
Course Type : DSE-II	Course Code:
	PHOTOGEOLOGY AND REMOTE SENSING
Course Title:	
Credit: 3	Lectures : 45
	Minimum passing Marks: 40%
M.M. 100 = (ESE 80+IA 20)	William passing week

Course Outcome(CO):- On completion of course, the students should be able to

- 1. Explain basic principles of photogeology and aerial photography.
- 2. Understand basic concepts of electromagnetic radiation, its interaction with the earth's surface and atmosphere.
- 3. Understand resolution properties to interpret, process and evaluate remotely sensed images.
- 4. Explain about the GIS principles and applications.
- 5..Interpret geological features on aerial photographs.

	F \	Contents
Theory Core	Unit &	
Course : 1 Course	Hours	
Name :Photogeology and		the photograph tilt and relief distortion. Elements of
Remote Sensing Credits: 3	1-12	Types and geometry of aerial photograph, tilt and relief distortion. Elements of photogrammetry, stereoscopy, stereovision, flight planning. Recognition of photo-elements
Membre Semany	72 2	and terrain elements like tone, texture, pattern, shape, size.
ecture 45		and terrain early to the state of the state
	ii - 11	Photo-interpretation of structural and landform elements, tectonic features, features of glacial, fluvial, coastal, aeolian and denudation landforms. Electromagnetic energy,
		electromagnetic spectrum, image characteristics.
		in Carallitae, Remote Sensing: data source, platforms and
	111 - 11	Space missions, Indian Remote Sensing Satellites, Remote Sensing data products, geometric and sensors. Acquisition of remote sensing data.Remote Sensing data products, geometric and radiometric corrections, thermal and microwave remote sensing. Digital Image Processing
	A3.55	radiometric corrections, see
	IV - 11	Remote Sensing techniques in Geosciences: Visual Interpretation of satellite images Techniques of image interpretation using spectral, special and temporal information
		Signature of the natural objects

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Text Books, **Reference Books** & E-resources

Text Books Recommended:

Drury, S.A., 1987: Image interpretation in Geology. Allen and Unwin.

Lillesand, T.M. and Kleffer, R.W., 1987: Remote Sensing and Image Interpretation. John Wiley.

Pandey, S.N., 1987: Principles and Applications of Photogeology. Wiley Eastern. New Delhi.

Gupta, R.P., 1990: Remote Sensing Geology. Springer Verlag

Reference Books:

Miller, V.C., 1961: Photogeology. McGraw Hill.

Sabbins, F.F., 1985: Remote Sensing-Principles and Applications. Freeman

Online Resources: (e- Resources/ e- Books/ e- Learning Portals)

https://natural-resources.canada.ca/maps-tools-and-publications/satellite-imagery-elevationdata-and-air-photos/tutorial-fundamentals-remote-sensing/9309

PHOTOGEOLOGY AND R	EMOTE SENSING LABCOURSE Program : B.Sc.
Session : 2025-26	Subject : Geology
Semester : VI	Course Code:
Course Type : DSE-IILAB	PHOTOGEOLOGY AND REMOTE SENSING LAB
Course Title:	30 hours
. Credit:1	Minimum passing Marks: 40%
M.M. 50	

Course Lerning Outcome (CLO): On completion of Course, the students will be able to

- 1. Identify terrain elements present on aerial photographs
- Identify terrain elements present on satellite Imagerles
- Visually interpret satellite imageries.
- Apply the principles of remote sensing for solving various geological problems

ab Course	Topics Topics pocket and mirror stereoscope.
1	Study of aerial photographs using pocket and mirror stereoscope. Study of terrain elements present on aerial photographs and satellite imageries
2	Study of terrain elements present on acrisis pure services
3	Visual interpretation of satellite imageries.
4	Use of G.P.S. Using "Google Earth Pro, Practical exercises related to • Marking location • Marking polygon • Marking Using "Google Earth Pro, Practical exercises related to • Marking location • Marking polygon • Marking
5	Using "Google Earth Pro, Practical exercises reading to linear feature • Saving .kml and .kmz file

	TEXT BOOKS Recommended:
eference Books	Drury, S.A., 1987: Image interpretation in Geology. Allen and Unwin.
& E-resources	Lillesand, T.M. and Kleffer, R.W., 1987: Remote Sensing and Image Interpretation. John Wiley.
	Pandey, S.N., 1987: Principles and Applications of Photogeology. Wiley Eastern. New Delhi.
	Gupta, R.P., 1990: Remote Sensing Geology. Springer Verlag
	Reference Books:
	Miller, V.C., 1961: Photogeology. McGraw Hill.
	Sabbins, F.F., 1985: Remote Sensing- Principles and Applications. Freeman
	Online Resources: (e- Resources/ e- Books/ e- Learning Portals)https://natural-resources.canada.ca/mag tools-and-publications/satellite-imagery-elevation-data-and-air-photos/tutorial-fundamentals-remote-

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StudentMarking System of Theory

4 Credits – 100 marks

Internal - 20 Marks

External – 80 Marks – Very Short Answer Questions – 16 Marks (8 Ques. *2 Marks).

Short Answer Questions – 24 Marks (4 Ques. *6 Marks).

Long Answer Questions – 40 Marks (4 Ques. *10 Marks)

Marking System of Practical

2 Credits - 50 Marks

Internal – 10 Marks

End Term Exam – 40 Marks.

Written (30 Marks) + Record (5 Marks) + Viva (5 Marks).

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