

GOVT.DIGVIJAY AUTONOMOUS PG COLLEGE
RAJNANDGAON (CG)

DEPARTMENT OF GEOLOGY
SYLLABUS FOR

THE FOUR-YEAR UNDERGRADUATE PROGRAM

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



Dr. S. Janamani



Subject Expert: Dr. S. D. Deshmukh

Subject Expert: Dr. Prashant Shrivastav



Subject Expert: Dr. Rajeev Guhe

GOVT.DIGVIJAY AUTONOMOUS PG COLLEGE RAJNANDGAON (CG)

Department of Geology
B.Sc. Geology Semester - I, II, III, IV, V, VI
Session 2025-26

Syllabus & Scheme of Semester System Session 2025-26

Sem.	Course	Course Code	Name	Credits	Marks
I	DSC- 1 T		Fundamental of Geology	03	
	DSC- 1 P		Fundamental of Geology	01	
	GE - 1 T		Fundamental of Geology	03	
	GE - 1 P		Fundamental of Geology	01	
	VAC		Disaster Management	02	
II	DSC- 2 T		Essentials of Geology	03	
	DSC- 2 P		Essentials of Geology	01	
	GE - 1 T		Essentials of Geology	03	
	GE - 1 P		Essentials of Geology	01	
	SEC		Rain Water Harvesting	02	
III	DSC- 3 T		Igneous & Metamorphic Petrology	03	
	DSC- 3 P		Igneous & Metamorphic Petrology	01	
	DSE - 3 T		Earth & Climate	03	
	DSE - 3 P		Natural resources and management	01	
	VAC -		Disaster Management	02	
IV	DSC- 4 T		Sedimentary Petrology & Crustal Evolution	03	
	DSC- 4 P		Sedimentary Petrology & Crustal Evolution	01	
	DSE - 4 T		Environmental Geology	03	
	DSE - 4 P		Microbiology and Phytotoxology	01	
	SEC		Rain Water Harvesting	02	
V	DSC-5 T		Stratigraphy	03	
	DSC- 5 P		Stratigraphy	01	
	DSE - 5 T		Palaeontology	03	
	DSE - 5 P		Palaeontology	01	
VI	DSC- 6T		Applied Geology	03	
	DSC- 6P		Applied Geology	01	
	DSE- 6T		Geological Mapping Techniques	03	
	DSE- 6P		Plant breeding and Seed technology)	01	

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FOUR YEAR UNDERGRADUATE PROGRAM (2025-26)

DEPARTMENT OF GEOLOGY

.COURSE CURRICULUM

PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Semester: II	Session: 2025-2026
1	Course Code	GESC-02T	
2	Course Title	Essentials of Geology	
3	Course Type	Discipline Specific Course	
4	Pre-requisite (if any)	As per program	
5	Course Learning Outcomes (CLO)	After successfully completing this course, the students will be able to: <ul style="list-style-type: none"> • Explain about the basics of crystallography, various crystal forms, crystallographic axes and symmetry elements. • Describe various forms of normal classes of various crystal systems. Classify the minerals in various silicate groups and explain their varieties. • Describe the physical properties of various minerals. • Describe the optical characteristics of various minerals. 	
6	Credit Value	3 Credits (Credit=15 hours-learning & observation)	
7	Total Marks	Max. Marks: 100	Min Passing Marks : 40
PART- B: CONTENT OF THE COURSE			
Total No. of Teaching-learning Periods (01 hour per period)- 45 Periods (45 Hours)			
Unit	Topics (Course Contents)		No. of Period
I	Mineralogy: Definition of Mineral, Mineral Classification (Ore forming, rock forming, metallic & Non-metallic etc.). Physical, chemical and optical properties of minerals.		10
II	Crystallography: Definition of Crystal, Crystal Lattice, Classification of Crystal System. Silicate Structure and its types along with mineral examples.		11
III	Petrology: Rock Cycle. Types and Mode of formation of different Rocks (Igneous, Metamorphic and Sedimentary) and their properties. Texture and Structure of igneous, Metamorphic and Sedimentary rocks.		12
IV	Tabular Classification Igneous Rocks. Classification of Sedimentary Rocks: Clastic, non Clastic and Biogenic. Types and Agents of Metamorphism.		12

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Part - C: Learning 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, 3rd ed. 2012.
7. Rathore, B.S.; Basics of Crystallography, Mineralogy and Geochemistry. Notion Press in dia, 2020
8. Sharma, R.S. 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://egpg.inflibnet.ac.in/Home>
4. <https://archive.org/details/in.ernet.dli.2015.233340/page/n15/mode/2up>
5. <https://egvankosh.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 and Evaluation

Suggested Continuous Evaluation Methods:

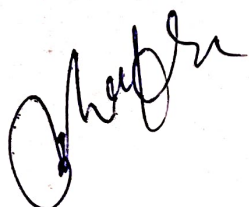
Maximum Marks: 50 Marks

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 Test / Quiz +obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20Marks B. Spotting based on tools & technology (written)- 10 Marks C. Viva-voce (based on principle/technology) - 05 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

PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Semester: II	Session: 2025-2026
1	Course Code	GESC-02P	
2	Course Title	Lab. Course --02 (Essentials of Geology)	
3	Course Type	Discipline Specific Course	
4	Pre-requisite (if any)	As per program	
5	Course Learning Outcomes (CLO)	<p>After successfully completing this course, the students will be able to:</p> <ul style="list-style-type: none"> • Understand the megascopic properties of Quartz and Feldspar group of minerals • Understand the megascopic properties of pyroxene group of minerals • Understand megascopic properties of Amphibole group of minerals • Describe the megascopic properties of olivine and Mica group of Minerals. • Describe microscopic identification of minerals. • Identify the various crystal Systems and Symmetry through crystal models • Assess the miller Indices of the crystal models • Identify Twinning in crystals. 	
6	Credit Value	I Credit	(Credit=30 hours Laboratory or Field learning/ Training)
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20
Part B: Content of the Course			
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)			
Module	Topics (Course contents)		No. of Period
Lab./Field Training/ Experiment Contents of Course,	<ol style="list-style-type: none"> 1) Microscopic study of minerals and rocks. 2) Plotting of important mineral deposits on the outline map of India. 		30

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Part - C: Learning Resource

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, 3rd ed. 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 and Methods. Geol. Soc. Ind., Bengaluru, 2013.

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2. <https://myw.mooc-list.com/tags/minerals>
3. <https://el!gl!.inlibnet.ac.in/Home>
4. <https://archive.org/details/in.ernet.clli.2015.233340/!age/n15/mode/2ul!>
5. https://e!i:,y_ankosh.ac.in/
6. https://sites.google.com/iou.ac.in/bscgeology_
7. SWAYAM-<https://swayam.gov.in/explorer?searchtext>
8. National digital library <https://ndl.jitkell.ac.in>
9. e-PG pathshala (MHRD) portal, <https://el!g.inlibnet.ac.in>

PART-D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

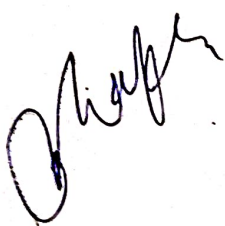
Maximum Marks: 50 Marks

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 Test/ Quiz +obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory/ Field Skill Performance: On spot Assessment 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. status

Name and Signature of Convener & Member CBoS:







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

PART-A: Introduction		
Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Semester: II
		Session: 2025-2026
1	Course Code	GEGE-02T
2	Course Title	Essentials of Geology
3	Course Type	Discipline Elective Course
4	Pre-requisite (if any)	As per program
5	Course Learning Outcomes (CLO)	<p>After successfully completing this course, the students will be able to:</p> <ul style="list-style-type: none"> • Explain about the basics of crystallography, various crystal forms, crystallographic axes and symmetry elements. • Describe various forms of normal classes of various crystal systems. Classify the minerals in various silicate groups and explain their varieties. • Describe the physical properties of various minerals. • Describe the optical characteristics of various minerals.
6	Credit Value	3 Credits (Credit=15 hours-learning & observation)
7	Total Marks	<div>Max. Marks: 100</div> <div>Min Passing Marks : 40</div>

PART- B: CONTENT OF THE COURSE

Total No. of Teaching-learning Periods (01-hour per period)- 45 Periods (45 Hours)		
Unit	Topics (Course Contents)	No. of Period
I	Mineralogy: Definition of Mineral, Mineral Classification (Ore forming, rock forming, metallic & Non-metallic etc.). Physical, chemical and optical properties of minerals.	11
II	Crystallography: Definition of Crystal, Crystal Lattice, Classification of Crystal System. Silicate Structure and its types along with mineral examples.	11
III	Petrology: Rock Cycle. Types and Mode of formation of different Rocks (Igneous, Metamorphic and Sedimentary) and their properties. Texture and Structure of igneous, Metamorphic and Sedimentary rocks.	12
IV	Tabular Classification Igneous Rocks. Classification of Sedimentary Rocks: Clastic, non-Clastic and Biogenic. Types and Agents of Metamorphism.	11

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Part - C: Learning Resource**Text Books, Reference Books, Others****Text Book**

1. 1
- 2.
- 3.

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 Hall India, 3rd ed. 2012.
7. Rathore, B.S.; Basics of Crystallography, Mineralogy and Geochemistry. Notion Press India, 2020
8. Sharma, R.S. and Sharma, Anurag; Crystallography and Mineralogy - Concepts and Methods. Geol. Soc. Ind., Bengaluru, 2013.

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1. <https://www.mindat.org>
2. <https://www.mooc-list.com/tags/minerals>
3. <https://egpp.inflibnet.ac.in/Home>
4. <https://archive.org/details/in.ernet.dli.2015.233340/page/n15/mode/2up>
5. <https://egvankosh.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.jitkep.ac.in>
9. e-PG pathshala (MHRD) portal, <https://egpp.inflibnet.ac.in>

PART- D: Assessment and Evaluation**Suggested Continuous Evaluation 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 Test/ Quiz +obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory/ Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work -20 Marks B. Spotting based on tools & technology (written)- 10 Marks C. Viva-voce (based on principle/technology) - 05 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

PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Semester: II	Session:2025-2026
1	Course Code	GEGE-02P	
2	Course Title	Lab. Course -02 (Essentials of Geology)	
3	Course Type	Discipline Elective Course	
4	Pre-requisite (if any)	As per program	
5	Course Learning Outcomes (CLO)	<p>After successfully completing this course, the students will be able to:</p> <ul style="list-style-type: none"> • Understand the megascopic properties of Quartz and Feldspar group of minerals • Understand the megascopic properties of pyroxene group of minerals • Understand megascopic properties of Amphibole group of minerals • Describe the megascopic properties of olivine and Mica group of Minerals. • Describe microscopic identification of minerals. • Identify the various crystal Systems and Symmetry through crystal models • Assess the miller Indices of the crystal models • Identify Twining in crystals. 	
6	Credit Value	I Credit	(Credit=30 hours Laboratory or Field learning/ Training) .
7	Total Marks	Max. Marks: 50	Min Passing Marks: 20
Part B: Content of the Course			
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)			
Module	Topics (Course contents)		No. of Period
Lab./Field Training/ Experiment Contents of Course,	1) Microscopic study of minerals and rocks. 2) Plotting of important mineral deposits on the outline map of India.		30

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Part - C: Learning Resource

Text Books, Reference Books, Others

1.
2.
3.
4.

5. Gribble, C.D. Rutley's Elements of Mineralogy. CBS, 2005.
6. Ford W.E.; Dana's Text Book of Mineralogy. CBS, 2006.
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e-resources:

1. <http://www.mindat.org>
2. <http://www.mooc-list.com/ta2s/minerals>
3. <http://el211.inflibnet.ac.in/Home>
4. <http://archive.or2/details/in.ernet.dli.2015.233340/!a2e/nl5/mode/2ul>
5. <http://egY.ankosh.ac.in/>
6. <http://sites.google.com/ignou.ac.in/bscgeology>
7. SWAYAM - <https://swayam.gov.in/explorer?searchtext>
8. National digital library <http://ndl.iitkgp.ac.in>
9. e-PG pathshala (MHRD) portal, <http://eglg.inflibnet.ac.in>

PART-D: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

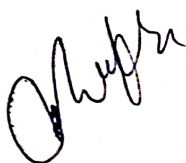
Maximum Marks: 50 Marks

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 Test/ Quiz +obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory / Field Skill Performance: On spot Assessment 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. status

Name and Signature of Convener & Members of CBoS:


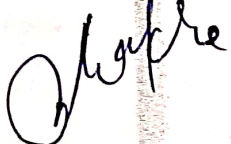
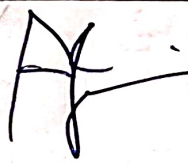






FOUR YEAR UNDERGRADUATE PROGRAM (2025-26)
DEPARTMENT OF GEOLOGY
COURSE CURRICULUM

PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Semester: 11/IVNN	Session: 2025-2026
1	Course Code	GESEC -01	
2	Course Title	RAINWATER HARVESTING	
3	Course Type	Skill Enhancement Course (SEC)	
4	Pre-requisite(if any)	As per Government norms	
5	Course Learning Outcomes (CLO)	<p>On completion of Course, the students should be able to</p> <ol style="list-style-type: none"> 1. Define key rainwater harvesting concepts, terms, and Principles 2. Assess a site for rainwater harvesting potential and water uses 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 5. Refine a conceptual rainwater harvesting plan with relevant Site/Items details 	
6	Credit Value	2 Credits (Credit=30 hours-learning & observation)	
7	Total Marks	Max. Marks: 50	Min Passing Marks : 20
PART- B: CONTENT OF THE COURSE			
Total No. of Teaching-learning Periods (01 hour per period)- 30 Periods (30 Hours)			
Unit	Topics (Course Contents)		No. of Period
I	1) Water and its distribution 2) Water cycle 3) Rain Water Harvesting - Concepts & Terms 4) Rain Water Harvesting system		15
II	1) Selection Procedure for Rain Water Harvesting Site 2) Rain Water Runoff, Runoff Coefficient, Infiltration 3) Roof Rain Water Harvesting system 4) Government Policies regarding Rain Water Harvesting system		15

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 Resources	
http://www.rainwaterharvesting.org/	

PART-D: Assessment and Evaluation -Theory		
Suggested Continuous Evaluation 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): 5+5 Assignment/ Seminar- 5 Total Marks - 30	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Two section - A & B Section A: Q1. Objective- to xl= 10 Mark; Q2. Short answer type- 5x2=10Marks Section B: Descriptive answer type qts.,Sout of3 from each unit-3x5=15 Marks	

Name and Signature of Convener & Members of C BoS:

Chakraborty

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**FOUR YEAR UNDERGRADUATE PROGRAM (2024-25) DEPARTMENT OF GEOLOGY
COURSE CURRICULUM**

COURSE CURRICULUM				
PART-A: Introduction				
Program: Bachelor in Science (Diploma/Degree/Honors)		Semester: IV	Session: 2024-2025	
1	Course Code	GESC-04T		
2	Course Title	SEDIMENTARY PETROLOGY & CRUSTAL EVOLUTION		
3	Course Type	Discipline Specific Course		
4	Pre-requisite (if any)	As per program		
5	Course Learning Outcomes (CLO)	On completion of Course, the students should be able to - <ul style="list-style-type: none">• Discuss about the formation of sedimentary rocks, their texture and structures• Explain classification of sedimentary rocks,• Identify, describe and classify sedimentary rocks using hand specimens• The formation of sedimentary rocks, their textures and structures		
6	Credit Value	3 Credits	(Credit=15 hours-learning & observation)	
7	Total Marks	Max. Marks: 100	Min Passing Marks : 40	
PART- B: CONTENT OF THE COURSE				
Total No. of Teaching-learning Periods (01 hour per period)- 45 Periods (45 Hours)				
Unit	Topics (Course Contents)			No. of Period
I	Sedimentary Petrology: (1) Origin, Transportation, and Deposition of Sediments (2) Sedimentary Depositional Environment - Aeolian (3) Sedimentary Depositional Environment- Fluvial (4) Sedimentary Depositional Environment- Coastal (5) Sedimentary Depositional Environment- Abyssal			11
II	Sedimentary Petrology: 1. Sedimentary Facies 2. Lithification and Diagenesis 3. Texture and structures of sedimentary rocks 4. Classification of Sedimentary rocks- Clastic, Non- Clastic, Biogenic 5. Petrogenetic description of Sedimentary rocks-Shale, Sandstone, Limestone, Dolomite, Breccia, Conglomerate, Siltstone			12
III	Crustal Evolution: 1. Crust, Mantle, core 2. Oceanic ridges, Mantle plume, Continental rift 3. Craton, Arc system 4. Orogeny, plate Tectonics 5. Hotspots			10
IV	Crustal Evolution: 1. Super Continent- Formation, Cycle, Break up, Mantle plume events 2. Continental Growths 3. Continental Growth rates 4. Mantle Plume events throughout Earth History 5. Metallogeny and its relation to its Evolution in crustal Growth			12

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

PART-A: Introduction			
Program: Bachelor in Science (Diploma/Degree/Honors)		Semester: IV	Session: 2025-2026
	Course Code	GESC-04P	
2	Course Title	Lab. Course - 04 (Sedimentary Petrology & Crustal Evolution)	
3	Course Type	Discipline Specific Course	
4	Pre-requisite (if any)	As per program	
5	Course Learning Outcomes (CLO)	On completion of Course, the students should be able to -- <ul style="list-style-type: none"> Identify the Sedimentary rocks in hand specimens and thin sections. 	
6	Credit Value	I Credit	(Credit=30 hours Laboratory or Field learning/ Training)
7	Total Marks.	Max. Marks: 50	Min Passing Marks: 20
Part B: Content of the Course			
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)			
Module	Topics (Course contents)		No. of Period
Lab./Field Training/ Experiment Contents of Course,	(1) Megascopic studies of various sedimentary rocks. (2) Microscopic studies of various sedimentary rocks. (3) Diagrammatic representation of various structures of sedimentary (4) Diagrammatic representation of sedimentary provinces of India in outline map of India. (5) Fence diagram		30

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Part - C: Learning Resource**Text Books, Reference Books, Others**

1. 111111_QOR_fe,'tr. ○
2. "Filiil (;:___C)R{o- .-ft. .f' (')JB
3. Principles of petrology G.W. Tyrell
4. Petrology-H. William, F.J. Turner & E.M. Gilbert
5. A text book of sedimentary petrology -Verma& Prasad
6. 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

1. <https://egpg.inflibnet.ac.in/Home>
2. https://archive.org/details/in.ernet.dli.2015.233340/page/n1_S/mode/2up
3. <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>
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PART- D: Assessment and Evaluation**Suggested Continuous Evaluation Methods:**

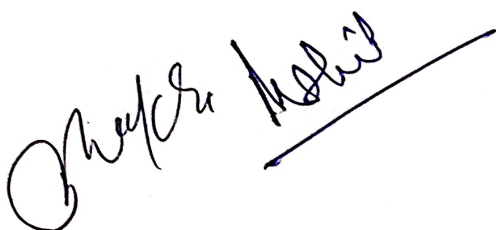
Maximum Marks: 50 Marks

Continuous Internal Assessment(CIA):15 Marks End

Semester Exam (ESE): 35 Marks


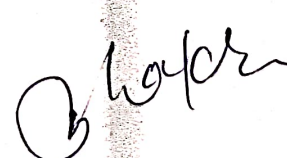
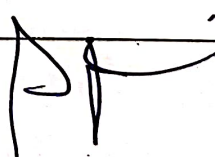
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 10 & 10 Assignment/Seminar+Attendance - 05 Total Marks -15	Better marks out of the two Test/ Quiz +obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Laboratory/ Field Skill Performance: On spot Assessment A. Performed the Task based on lab. work - 20 Marks B. Spotting based on tools & technology (written)-10 Marks C. Viva-voce (based on principle/technology) - OS Marks	Managed by Course teacher as per lab. status

Name and Signature of Convener & Members of CBoS:



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

PART-A: Introduction		
Program: Bachelor in Geology (Certificate/Diploma/Degree)		Semester: IV Session: 2025-2026
1	Course Code	GESE-02T
2	Course Title	ENVIRONMENTAL GEOLOGY
3	Course Type	Discipline Elective Course
4	Pre-requisite (if any)	As per program
5	Course Learning Outcomes (CLO)	On completion of this course, the students will be able to demonstrate the acquisition of: 1) Understand basics of climatology and oceanography
6	Credit Value	3 Credits (Credit=1 5 hours-learning & observation)
7	Total Marks	Max. Marks: 100(70+30) Min Passing Marks : 40
PART- B: CONTENT OF THE COURSE		
Total No. of Teaching-learning Periods (01 hour per period)- 45 Periods (45 Hours)		
Unit	Topics (Course Contents)	No. of Period
I	1.1 Concept of ecosystem/ ecology, concept of environmental geology 1.2 Nature and its degradation 1.3 Impact of man and natural system 1.4 Environmental laws, environmental policies if the country	10
II	2.1 Conservation principle, conservation of mineral and fuel resources 2.2 Conservation of soil and water resources 2.3 Problem pertaining to urbanization, causes and remedies 2.4 Problem pertaining to wasteland and wetlands	12
III	3.1 Human modification of nature in surface and subsurface by engineering construction Dams, Reservoirs, Bridges and Buildings. 3.2 Human settlement and contamination of atmosphere, soil, surface water and ground water by waste disposal and agro industries 3.3 Global warming, Ozone layer depletion 3.4 Drought, Desertification and salinization	11
IV	Natural hazards measure and mitigation: - 4.1 Landslides, volcanic activity, earthquake 4.2 river flooding, cyclones, tsunami, 4.3 Erosion and coastal erosion 4.4 Marine transgression and regression	11

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): Groundwater in Hydrosphere, CBS Publ.
- Perry, C.T. and Taylor, K.G. (2006): Environmental Sedimentology, Blackwell Publ.
- 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: Assessment and Evaluation -Theory

Suggested Continuous Evaluation Methods:

Maximum Marks: 100 Marks

Continuous Internal Assessment (CIA): 30 Marks

End Semester Exam (ESE): 70 Marks

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test / Quiz-(2): 20 + 20 Assignment / Seminar - 10 Total Marks - 30	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 30 Marks
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End Semester Exam (ESE):	Two section - A & B Section A: Q1. Objective- 10 x 1 = 10 Mark; Q2. Short answer type- 5 x 4 = 20 Marks Section B: Descriptive answer type qts., out of 2 from each unit- 4 x 10 = 40 Marks
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Name and Signature of Convener & Members of CBoS:

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

PART-A: Introduction

PART-A: Introduction			DEPARTMENT OF GEOLOGY COURSE CURRICULUM	
Program: Bachelor in Geology (Certificate/Diploma/Degree)		Semester: IV		Session:2025-2026
1	Course Code	GESE-02P		
2	Course Title	ENVIRONMENTAL GEOLOGY		
3	Course Type	Discipline Elective Course		
4	Pre-requisite (if any)	As per program		
5	Course Learning Outcomes (CLO)	After Successfully completing this course, the students will be able to 1. Understand the environment 12. Describe the geological aspect of interaction between environment and geological processes 3. Explain Mitigation of pollution. 4. Describe Environmental management plan		
6	Credit Value	1Credit	(Credit=30 hours Laboratory or Field learning/ Training)	
7	Total Marks	Max. Marks: 50		Min Passing Marks: 20
Part B: Content of the Course				
Total No. of learning-Training/performance Periods: 30 Periods (30 Hours)				
Module	Topics (Course contents)			No. of Period
Lab./Field Training/ Experiment Contents of Course,	Case study of any Environmental project in nearby area allotted by supervisor/guide			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): Groundwater 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: Assessment and Evaluation

Suggested Continuous Evaluation Methods:

Maximum Marks: 50 Marks

Continuous Internal Assessment (CIA): 11 Marks

End Semester Exam (ESE): 35 Marks


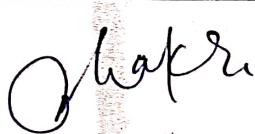

Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test/ Quiz-(2): 10 & 10 Assignment/Seminar + Attendance - 05 Total Marks -11	Better marks out of the two Test/ Quiz + obtained marks in Assignment shall be considered against 11 Marks
End Semester Exam (ESE):	Laboratory/ Field Skill Performance: On spot Assessment 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. status

Name and Signature of Convener & Members of CBoS:

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


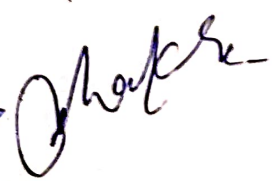
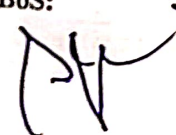
PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree/Honors)		Semester: 11/IVNN	Session: 2025-2026
1	Course Code	GESEC -01	
2	Course Title	RAINWATER HARVESTING	
3	Course Type	Skill Enhancement Course (SEC)	
4	Pre-requisite(if any)	As per Government norms	
5	Course Learning Outcomes (CLO)	<p>On completion of Course, the students should be able to</p> <ol style="list-style-type: none"> 1. Define key rainwater harvesting concepts, terms, and Principles 2. Assess a site for rainwater harvesting potential and water uses 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 5. Refine a conceptual rainwater harvesting plan with relevant Site/Items details 	
6	Credit Value	2 Credits (Credit=30 hours-learning & observation)	
7	Total Marks	Max. Marks: 50	Min Passing Marks : 20
PART- B: CONTENT OF THE COURSE			
Total No. of Teaching-learning Periods (01 hour per period)- 30 Periods (30 Hours)			
Unit	Topics (Course Contents)		No. of Period
I	1) Water and its distribution 2) Water cycle 3) Rain Water Harvesting - Concepts & Terms 4) Rain Water Harvesting system		15
II	1) Selection Procedure for Rain Water Harvesting Site 2) Rain Water Runoff, Runoff Coefficient, Infiltration 3) Roof Rain Water Harvesting system 4) Government Policies regarding Rain Water Harvesting system		15

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 Resources http://www.rainwaterharvesting.org/	

PART-D: Assessment and Evaluation -Theory		
Suggested Continuous Evaluation 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): 5+5 Assignment/ Seminar- 5 Total Marks - 30	Better marks out of the two Test / Quiz + obtained marks in Assignment shall be considered against 15 Marks
End Semester Exam (ESE):	Two section - A & B Section A: Q1. Objective- to xl= 10 Mark; Q2. Short answer type- 5x2=10Marks Section B: Descriptive answer type qts., Sout of3 from each unit-3x5=15 Marks	

Name and Signature of Convener & Members of C BoS:

DEPARTMENT OF GEOLOGY

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

B.Sc. – VI Semester Geology 2025-2026

DSC - Economic Geology

Session : 2025-26	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 Course : I Course Name : Economic Geology Credits : 3 Lecture 45	Unit & Hours	Contents.
	I - 11	Economic Geology introduction & its perspectives; Global mineral deposit & resource. Distribution of mineral deposits in time & space. Classification of mineral deposits. Geological thermometers. Magmatic & Hydrothermal processes of mineral formation.
	II - 11	Weathering products & Residual deposits. Oxidation & supergene sulphide enrichment processes. Sedimentary processes of ore formation. Placer deposits.
	III - 11	Geological and Geographical distribution, mode of occurrence and mineralogy of Iron, Manganese, Chromium, Copper, Lead, Zinc, Gold and Aluminium ore deposits of India.
	IV - 12	Refractory and Fertilizer minerals. Minerals used in cement & chemical industries. Coal deposits: Origin, Definition & stratigraphy. Fundamentals of coal petrography. Peat, Lignite, Bituminous & Anthracite. Indian coal deposits.

Adarsh Chakraborty

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Text Books, Reference Books & E-resources	Text Books Recommended: (1) आर्थिकभूविज्ञान--कृष्णगोपालव्यास (2) आर्थिक एवंव्यावहारिकभूविज्ञान--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
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Economic Geology lab Course

Session : 2025-26	Program : B.Sc.
Semester : VI	Subject : Geology
Course Type : DSCLAB	Course Code:
Course Title:	ECONOMIC GEOLOGY LAB
Credit : 1	30 hours
M.M. 50	Minimum passing Marks : 40%

Course Learning 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
1	Study of Important metallic and nonmetallic minerals on the basis of physical properties.
2	Distribution of Important metallic deposits within outline map of India.
3	Plotting of various non metallic mineral deposits on the outline map of India.
4	Plotting of various coal fields and petroleum field on the outline map of India.
5	Plotting of various radioactive mineral deposits on the outline map of India.

Text Books, Reference Books & E-resources	<p>TEXT BOOKS Recommended:</p> <p>प्रायोगिक भूविज्ञान भाग-3-गुप्ता. पुनवटकर</p> <p>Economic mineral deposits of India- Umeshwar Prasad.</p> <p>Ore-deposit of India- Gokhale & Rao</p> <p>Online Resources: (e- Resources/ e- Books/ e- Learning Portals)</p> <p>https://egyankosh.ac.in</p>
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Student Marking 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 2025-2026

Session : 2025-26	Program : B.Sc.
Semester : VI	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

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

Theory Core Course : I Course Name : Geology and Mineral Resources of Chhattisgarh Credits : 3 Lecture 45	Unit & Hours	Contents
	I - 12	Summary of Geological formations of Chhattisgarh. Geological map of Chhattisgarh. Archaeozoic formations of Chhattisgarh: Sukma and Bengpal Groups, Bhopalpatnam Granulite Belt, Bailadila Group, Kotri- Dongargarh Belt. Sonakhan Group, Abujhmar Group, Khairagarh Group, Nandgaon Group, Kanker Granite and Dongargarh Granite.
	II - 11	Chhattisgarh Supergroup, Indravati Group, Rock formations of Gondwana Supergroup. Umaria and Manendragarh marine beds, Deccan Trap
	III - 11	Geology, mineralogy and salient features of Iron ore deposits of Chhattisgarh. 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, Reference Books & E-resources	Text Books Recommended:
	Economic mineral deposits of India- Umeshwar Prasad.
	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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Online Resources: (e- Resources/ e- Books/ e- Learning Portals)

[https://www.researchgate.net/publication/362705237_Mineral_Resources_of_Chhattisgarh_-](https://www.researchgate.net/publication/362705237_Mineral_Resources_of_Chhattisgarh_-_A_Perspective)
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Geology and Mineral Resources of Chhattisgarh Labcourse

Session : 2024-25	Program : B.Sc.
Semester : VI	Subject : Geology
Course Type : DSE-ILAB	Course Code:
Course Title:	GEOLOGY & MINERAL RESOURCES OF CHHATTISGARH LAB
Credit : 1	30 hours
M.M. 50	Minimum passing Marks : 40%

Course Learning 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
5	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, Reference Books & E-resources	<p>TEXT BOOKS Recommended:</p> <p>Drury, S.A., 1987: Image Interpretation in Geology. Allen and Unwin.</p> <p>Lillesand, T.M. and Kieffer, R.W., 1987: Remote Sensing and Image Interpretation. John Wiley.</p> <p>Pandey, S.N., 1987: Principles and Applications of Photogeology. Wiley Eastern. New Delhi.</p> <p>Gupta, R.P., 1990: Remote Sensing Geology. Springer Verlag</p> <p>Reference Books:</p> <p>Miller, V.C., 1961: Photogeology. McGraw Hill.</p> <p>Sabbins, F.F., 1985: Remote Sensing- Principles and Applications. Freeman</p> <p>Online Resources: (e- Resources/ e- Books/ e- Learning Portals)</p>
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Student Marking 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 2021-2022

Session : 2021-22	Program : B.Sc.
Semester : VI	Subject : Geology
Course Type : DSE-II	Course Code:
Course Title:	PHOTO GEOLOGY AND REMOTE SENSING
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 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.

Theory Core Course : I Course Name : Photogeology and Remote Sensing Credits : 3 Lecture 45	Unit & Hours	Contents
	I - 12	Types and geometry of aerial photograph, tilt and relief distortion. Elements of photogrammetry, stereoscopy, stereovision, flight planning. Recognition of photo-elements and terrain elements like tone, texture, pattern, shape, size.
	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.
	III - 11	Space missions, Indian Remote Sensing Satellites. Remote Sensing: data source, platforms and sensors. Acquisition of remote sensing data. Remote Sensing data products, geometric and radiometric corrections, thermal and microwave remote sensing. Digital Image Processing
	IV - 11	Remote Sensing techniques in Geosciences: Visual Interpretation of satellite images. Techniques of image interpretation using spectral, spatial 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 Kieffer, 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-elevation-data-and-air-photos/tutorial-fundamentals-remote-sensing/9309
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PHOTO GEOLOGY AND REMOTE SENSING LAB COURSE

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

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

1. Identify terrain elements present on aerial photographs
2. Identify terrain elements present on satellite Imageries
3. Visually Interpret satellite imageries.
4. Apply the principles of remote sensing for solving various geological problems

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

Text Books, Reference Books & E-resources	TEXT BOOKS Recommended: Drury, S.A., 1987: Image interpretation in Geology. Allen and Unwin. Lillesand, T.M. and Kieffer, 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-elevation-data-and-air-photos/tutorial-fundamentals-remote-
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Student Marking 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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