Govt. Nagarjuna P.G. College of Science
Raipur, C.G.

CURRICULUM & SYLLABI

(Based on CBCS & LOCF)

Bachelor of Science (Geology)
(NEP - 2020)
(III & IV Sem)
Session : 2025-26

Approved by:	Board of Studies	Academic Council
Date:	07-07-2025	

Department of Geology
Govt. Nagarjuna P.G. College of Science
Raipur, C.G.

Scheme of Papers in B.Sc. III / IV Semester Geology 2025-26 as per UGC (NEP 2020)		
Semester	**DSC**	**DSE**
B.Sc. III Sem	Igneous and Metamorphic Geology	Earth & Climate
B.Sc. IV Sem	Sedimentary Petrology & Crustal Evolution	Environmental Geology

Head of Dept. Subject Expert Subject Expert Subject Expert

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FOUR YEAR UNDERGRADUATE PROGRAM
DEPARTMENT OF GEOLOGY
COURSE CURRICULUM

PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree)		Semester: III	Session:2025-2026
1	Course Code	DSC-GESC-03T	
2	Course Title	Igneous And Metamorphic Petrology	
3	Course Type	Discipline Specific Course (Theory)	
4	Pre-requisite(if any)	As per Government norms	
5	Course Learning Outcomes(CLO)	On completion of Course, the students should be able to - 1. Discuss about the formation of igneous rocks, their texture and structures 2. Explain about forms and classification of igneous rocks 3. Explain about the formation of metamorphic rocks, their texture and structure 4. Identify and classify various types of metamorphic rocks. 5. Explain the concept of metamorphic facies, ACF, AKF and AFM diagrams.	
6	Credit Value	3 Credits	(Credit=15hours-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	**Igneous petrology:** Magma-Definition, Origin, Composition; Bowen's Reaction series; Magmatic Differentiation & Assimilation; Bicomponent Magma- i) Albite- Anorthite System ii) Diopside Anorthite System; Tricomponent- Diopside- Anorthite- Albite system	15
II	**Igneous Petrology:** Texture, Structure, Forms of Igneous rock; Classification of Igneous rock; Petrography of Acidic Igneous rock; Petrography of Intermediate Igneous rock; Petrography of Basic and Ultrabasic Igneous Rock	15
III	**Metamorphic Petrology:** Metamorphism –Definition & Agents; Metamorphism -Facies and Grades; Texture and structure of metamorphic rocks; Classification of metamorphic rocks; Paragenetic Diagram, ACF and AKF	15
IV	**Metamorphic Petrology:** Thermal Metamorphism of Argillaceous rock; Thermal Metamorphism of Impure Limestone; Metamorphism of Basic Igneous rock; Paired Metamorphism; Petrography of Slate, Phyllite, Schist, Gneiss, Marble, Quartzite, Amphibolite, Khondalite, Charnockite	15

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Part-C
Learning Resource: Text Books, Reference Books, Others
(1) शैलिकी के सिद्धान्त – डॉ अंबिका प्रसाद अग्रवाल (2) शैलिकी के सिद्धान्त – ए. जी. झींगरन (3) Principles of petrology G.W. Tyrell (4) Petrology-H. William, F.J. Turner & E.M. Gilbert (5) Petrology of igneous & metamorphic rocks of India-S.C. Chattarjee (7)Metamorphism & Metamorphic rocks of India-S. Ray 8)Principles of igneous and metamorphic petrology john D. winter **E-resources** **1. https://epgp.inflibnet.ac.in/Home** **2.** https://archive.org/details/in.ernet.dli.2015.233340/page/n15/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.** Nationaldigitallibraryhttps://ndl.iitkgp.ac.in **7.** e-PG pathshala(MHRD)portal,https://egpg.inflibnet.ac.in

PART-D: Assessment and Evaluation -Theory		
Suggested Continuous Evaluation Methods: Maximum Marks: 100Marks Continuous Internal Assessment (CIA): 30Marks End Semester Exam (ESE): 70 Marks		
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test/Quiz-(2):20+20 Assignment/Seminar- 10 TotalMarks-30	Better marks out of the two Test / Quiz+ obtained marks in Assignment shall be considered against 30 Marks
End Semester Exam (ESE):	**Two section– A & B** Section A: **Q1**.Objective–**10x1= 10**Mark; **Q2**. Short answer type-**5x4 =20 Marks** Section B: Descriptive answer type questions, **1 out of 2** from each unit-**4x10=40Marks**	

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PART-A: Introduction				
Program: Bachelor in Science (Certificate/Diploma/Degree)		Semester: III		Session:2025-2026
1	Course Code	DSC-GESC-03P		
2	Course Title	Lab Course – 03 (Igneous and Metamorphic Petrology)		
3	Course Type	Discipline Specific Course (practical)		
4	Pre-requisite(if any)	As per Government norms		
5	Course Learning Outcomes (CLO)	On completion of Course, the students should be able to– 1. Identify the igneous, and metamorphic rocks in hand specimens and thin sections.		
6	Credit Value	1 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) Diagrammatic representation of various forms of igneous & Metamorphic rocks 2) Diagrammatic representation of various structures of igneous & Metamorphic rocks 3) Megascopic studies of various metamorphic and igneous rocks 4) Microscopic studies of various metamorphic and igneous rocks 5) Diagrammatic representation of petrographic provinces of India on outline map of India 6) Norm Calculation	30

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

- शैलिकी के सिद्धान्त - डॉ अंविका प्रसाद अग्रवाल
- शैसलकी केसिद्धान्त - ए जी झींगरन
- Principles of petrology G.W.Tyrell
- Petrology-H.William, F.J.Turner & E.M.Gilbert
- Petrology of igneous & metamorphic rocks of India-S.C. Chattarjee
- Metamorphism& Metamorphic rocks of India-S.Ray
- Principles of igneous and metamorphic petrology john D. winter

E-resources

- https://epgp.inflibnet.ac.in/Home
- https://archive.org/details/in.ernet.dli.2015.233340/page/n15/mode/2up
- https://egyankosh.ac.in/
- https://sites.google.com/ignou.ac.in/bscgeology
- SWAYAM-https://swayam.gov.in/explorer?searchtext
- Nationaldigitallibraryhttps://ndl.iitkgp.ac.in
- e-PGpathshala(MHRD)portal,https://egpg.inflibnet.ac.in

PART-D: Assessment and Evaluation-Practical			
Suggested Continuous Evaluation Methods: Maximum Marks: 50Marks 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 twoTest/ 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) –10Marks C. Viva-voce(based on principle/technology) -05Marks		Managed by Course teacher as Per lab. status

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Part A Introduction				
Program: Bachelor in Science (Certificate/Diploma/Degree)		Semester: III	Year: 2025	Session:2025-2026
S.No.				
1	Course Code	GESE– 01T		
2	Course Title	Earth and Climate.		
3	Course Type	Discipline Elective Course.		
4	Pre-requisite (if any)	As per institutional guidelines.		
5	Course Learning Outcomes (CLO)	On completion of Course, the students should be able to - Understand the climate and its effect. Understand the Atmosphere, Biosphere and Hydrosphere.		
6	Credit Value	Theory : 03		
7	Total Marks	Max. Marks: 100=70TH + 30 Internal assessment	Minimum Passing Marks : 40	

Part B Content of the Course		
Total Lectures: 45		
Unit	**Topics**	**No. of Lectures**
I	Climate system: Forcing and Responses Components of the climate system Climate forcing, Climate controlling factors , Climate system response, response rates and interactions within the climate system, Feedbacks in climate system.	11
II	Heat budget of Earth, Incoming solar radiation, receipt and storage of heat. Heat transformation Earth's heat budget. Interactions amongst various sources of earth's heat	11
III	Atmosphere-Hydrosphere Layering of atmosphere and atmospheric Circulation Atmosphere and ocean interaction and its effect on climate, Heat transfer in ocean Global oceanic conveyor belt and its control on earth's climate. Surface and deep circulation Sea ice and glacial ice.	11
IV	Response of biosphere to Earth's climate, Climate Change: natural vs. anthropogenic effects Humans and climate change ,Future perspectives Brief introduction to archives of climate change Archive based climate change data from the Indian continent Monsoon, Mechanism of monsoon Monsoonal variation through time Factors associated with monsoonal intensity, Effects of monsoon	12

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Part C Learning Resources
1. Rudiman,W.F.,2001.Earth's climate: past and future. Edition 2. Freeman Publisher. 2. Rohli,R.V.,andVega,A.J.,2007.Climatology. Jones and Barlatt 3. Lutgens,F.,Tarbuck,E.,andTasa,D.,2009.TheAmosphere: An Introduction to Meteorology. Pearson Publisher 4. Aguado,E.,andBurt,J.,2009.Understanding weather

E-resources
1. https://epgp.inflibnet.ac.in/Home 2. https://archive.org/details/in.ernet.dli.2011.233340/page/n11/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 7. e-PG pathshala (MHRD) portal. https://egpg.inflibnet .ac.in

PART-D: Assessment and Evaluation-Theory		
Suggested Continuous Evaluation Methods: Maximum Marks: 100Marks Continuous Internal Assessment (CIA): 30Marks End Semester Exam (ESE): 70 Marks		
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test/Quiz-(2) :20+20 Assignment/Seminar- 10 TotalMarks-30	Better marks out of the two Test/ Quiz+ obtained marks in Assignment shall be considered against **30** Marks
End Semester Exam (ESE):	**Two section– A&B** Section A:**Q1**.Objective–**10x1=10**Mark; **Q2**.Short answertype-**5x4=20Marks** Section B: Descriptive answer type questions,**1outof2**fromeachunit-**4x10=40 Marks**	

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PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree)		Semester: III	Session:2025-2026
1	Course Code	DSE-GESE-01P	
2	Course Title	Lab Course (Earth & Climate)	
3	Course Type	Discipline Specific Course (Practical)	
4	Pre-requisite (if any)	As per Government norms	
5	Course Learning Outcomes(CLO)	On completion of Course, the students should be able to - Understand the climate and its effect. Understand the Atmosphere, Biosphere and Hydrosphere.	
6	Credit Value	1 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/performancePeriods:30Periods(30Hours)		
Module	**Topics(Course contents)**	**No. of Period**
Lab./Field Training/ Experiment Contents of Course,	1. Study of Rainfall pattern 2. Climatological Study of Indian Subcontinent 3. Assignment related to Climatic/Climate Change with Examples	30

Part-C
Learning Resource: Text Books, Reference Books, Others
Text Books Recommended- -Climatology by D.S Lal -Oceanography by D.S Lal -Physical Geography by D R Khullar -Physical Geography By Savindra Singh -Invitation to oceanography by Paul r. Pinet -Essentials of oceanography by Tom S Garrison -Introduction to physical oceanography by Robert H Stewart

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PART-D: Assessment and Evaluation -Practical			
Suggested Continuous Evaluation Methods: Maximum Marks: 50Marks Continuous Internal Assessment (CIA):15Marks End Semester Exam (ESE): 35 Marks			
Continuous Internal Assessment (CIA): **(By Course Teacher)**	Internal Test/Quiz-(2):**10&10** Assignment/Seminar+Attendance-**05** TotalMarks-**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) –10Marks C. Viva-voce (based on principle / technology) -05Marks		Managed by Course teacher as Per lab. status

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FOUR YEAR UNDERGRADUATE PROGRAM
DEPARTMENT OF GEOLOGY
COURSE CURRICULUM

PART-A: Introduction			
Program: Bachelor in Science (Certificate/Diploma/Degree)		Semester: IV	Session: 2025-2026
1	Course Code	DSC-GESC-04T	
2	Course Title	Sedimentary Petrology & Crustal Evolution	
3	Course Type	Discipline Specific Course (Theory)	
4	Pre-requisite(if any)	As per Government norms	
5	Course Learning Outcomes(CLO)	On completion of Course, the students should be able to-. 1) Discuss about the formation of sedimentary rocks, their texture and structures 2) Explain classification of sedimentary rocks, 3) Identify, describe and classify sedimentary rocks using hand specimens 4) The formation of sedimentary rocks, their textures and structures	
6	Credit Value	3 Credits	(Credit=15hours-learning&observation)
7	Total Marks	Max. Marks:100(70+30)	Min Passing Marks : 40

PART-B: CONTENT OFTHE 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, Fluvial, Coastal, Abyssal	15
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	15
III	**Crustal Evolution:** Crust, Mantle, core, Oceanic ridges, Mantle plume, Continental rift, Craton, Arc system, Orogeny, plate Tectonics, Hotspots	15
IV	**Crustal Evolution:** Super Continent-Formation, Cycle ,Break up, Mantle plume events; Continental Growths; Continental Growth rates; Mantle Plume events throughout Earth History; Metallogeny and its relation to its Evolution in crustal Growth	15

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Part-C
Learning Resource: Text Books, Reference Books, Others
1) शैलिकी के सिद्धान्त - डॉ अंबिका प्रसाद अग्रवाल 2) शैसलकी केसिद्धान्त - ए जी झींगरन 3) Principles of petrology G.W. Tyrell 4) Petrology-H. William, F.J. Turner & E.M. Gilbert 5) (6)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: Sambog 10) Earth as an evolving planet system: Kent C. Condie **E-resources** **1.** https://epgp.inflibnet.ac.in/Home **2.** https://archive.org/details/in.ernet.dli.2015.233340/page/n15/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.** Nationaldigitallibraryhttps://ndl.iitkgp.ac.in **7.** e-PGpathshala(MHRD)portal,https://egpg.inflibnet.ac.in

PART-D: Assessment and Evaluation-Theory		
Suggested Continuous Evaluation Methods: Maximum Marks: 100Marks Continuous Internal Assessment(CIA): 30Marks End Semester Exam(ESE): 70 Marks		
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test/Quiz-(2):20+20 Assignment/Seminar- 10 TotalMarks-30	Better marks out of the two Test/ Quiz+ obtained marks in Assignment shall be considered against **30** Marks
End Semester Exam (ESE):	**Two section– A&B** SectionA:**Q1**.Objective–**10x1=10**Mark; **Q2**.Short answer type-**5x4 =20Marks** Section B: Descriptive answer type questions, **1 out of 2** from each unit-**4x10=40 Marks**	

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PART-A: Introduction				
Program: Bachelor in Science (Certificate/Diploma/Degree)		Semester: IV		Session:2025-2026
1	Course Code	DSC-GESC-04P		
2	Course Title	Lab Course – 04 (Sedimentary Petrology & Crustal Evolution)		
3	Course Type	Discipline Specific Course (Practical)		
4	Pre-requisite(if any)	As per Government norms		
5	Course Learning Outcomes(CLO)	On completion of Course, the students should be able to– 1) Identify the Sedimentary rocks in hand specimens and thin sections.		
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/performancePeriods:30Periods(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 rocks 4) Diagrammatic representation of sedimentary provinces of India on outline map of India. 5) Fence diagram	30

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

1) शैलिकी के सिद्धान्त - डॉ अंबिका प्रसाद अग्रवाल
2) शैसलकी केसिद्धान्त - ए जी झींगरन
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: Sambog
10) Earth as an evolving planet system: Kent C. Condie

E-resources

1. https://epgp.inflibnet.ac.in/Home
2. https://archive.org/details/in.ernet.dli.2015.233340/page/n15/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. Nationaldigitallibraryhttps://ndl.iitkgp.ac.in
7. e-PGpathshala(MHRD)portal,https://egpg.inflibnet.ac.in

PART-D: Assessment and Evaluation-Practical			
Suggested Continuous Evaluation Methods: Maximum Marks: 50Marks 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 twoTest/ 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) –10Marks C. Viva-voce(based on principle/technology) -05Marks		Managed by Course teacher as Per lab. status

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PART-A: Introduction			
Program: Bachelor in Geology (Certificate/Diploma/Degree)		Semester: IV	Session:2025-2026
1	Course Code	DSE-GESE-02T	
2	Course Title	Environmental Geology	
3	Course Type	Discipline Specific Elective Course (Theory)	
4	Pre-requisite(if any)	As per Government norms	
5	Course Learning Outcomes(CLO)	On completion of this course, the students will be able to demonstrate the acquisition of: 1) Understanding the basics of Environmental geology, pollution, Mitigation of pollution, Environmental management	
6	Credit Value	3 Credits	Credit=1 (1hours - learning & observation)
7	Total Marks	Max.Marks:100(70+30)	Min Passing Marks : 40

PART-B:CONTENT OFTHE 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, concepts of environmental geology 1.2 Nature and its degradation 1.3 Impact of man and natural system 1.4 Environmental laws, environmental policies of the country	11
II	2.1 Conservation principle, conservation of mineral and fuel resources 2.2 Conservation of soil and water recourses 2.3 Problem pertaining to urbanization, causes and remedies 2.4 Problem pertaining to wasteland and wetlands	11
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	Elementary ideas of 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	12

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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, Belland 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: 100Marks Continuous Internal Assessment(CIA): 30Marks End Semester Exam(ESE): 70 Marks		
Continuous Internal Assessment (CIA): (By Course Teacher)	Internal Test/Quiz-(2):20+20 Assignment/Seminar- 10 TotalMarks-30	Better marks out of the **two** Test/ Quiz+ obtained marks in Assignment shall be considered against **30** Marks
End Semester Exam (ESE):	**Two section– A&B** SectionA:**Q1**.Objective–**10x1=10**Mark; **Q2**.Short answertype-**5x4 =20Marks** Section B: Descriptive answer type questions,**1 out of 2** from each unit-**4x10=40 Marks**	

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PART-A: Introduction				
Program: Bachelor in Geology (Certificate/Diploma/Degree)		Semester: IV		Session:2025-2026
1	Course Code	DSE-GESE-02P		
2	Course Title	Lab Course (Environmental Geology)		
3	Course Type	Discipline Specific Elective Course (Practical)		
4	Pre-requisite(if any)	As per Government norms		
5	Course Learning Outcomes(CLO)	After Successfully completing this course, the students will be able to 1. Understand the environment 2. 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: 30Periods (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
TextBooks Recommended- • Bryant,E.(1985): Natural Hazards, Cambridge Univ. Press. • Keller,E.A.(1978):Environmental Geology, Belland Howell, USA. • Nagabhushaniah,H.S.(2001): Groundwater in Hydrosphere, CBSPubl. • 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-Practical			
Suggested Continuous Evaluation Methods: Maximum Marks: 50Marks Continuous Internal Assessment(CIA): 15Marks 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) –10Marks C. Viva-voce (based on principle / technology) -05Marks		Managed by Course teacher as Per lab. status

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