



Approved syllabus for B.Sc. GEOLOGY by the members of Board of Studies for the  
 Session 2020 -21

The syllabus with the paper combinations is as under

**B.Sc. I Geology-**

Paper I: Geodynamics & Geomorphology Course code :- BGL01	Paper II: Mineralogy & Crystallography Course code :- BGL02
Practical Course code :- BGLP01	

**B.Sc. II Geology-**

Paper I: Petrology Course code :- BGL03	Paper II: Structural Geology Course code : BGL04
Practical Course code :- BGLP02	

**B.Sc. III Geology:-**

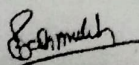
Paper I: Earth Processes and Resources Course code :- BGL05	Paper II: Natural Environment, Remote sensing, Groundwater and Mineral Exploration Course code :- BGL03
Practical: Course code :- BGLP03	

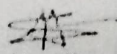
The syllabus for B.Sc. Geology I, II and III is hereby approved for the session 2020 -21.

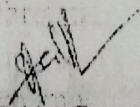
**Program Outcomes - B.Sc. Geology**

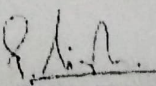
The student graduating with the Degree B.Sc. Geology will be able to:

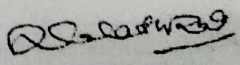
1. Acquire a solid base of knowledge in the science of geology as a whole as well as earth materials, earth history, sedimentation and stratigraphy, deformational processes and structural features, and geomorphic processes and landforms
2. Understand the geologic time scale and place important geologic events in a temporal framework
3. Demonstrate the ability to use Clinometers and Brunton compass, and images in geological investigations
4. Understand the pathways and influence of water and other fluids at Earth's surface and in the subsurface
5. Interpret topographic maps and terrain models and create profiles
6. Interpret geologic maps and construct cross sections from them
7. Distinguish between various structural features and determine the types of stress responsible for their formation
8. Describe and interpret types of surficial deposits and landforms
9. Apply principles of mathematics, chemistry, and physics to geologic problems
10. Develop proficiency in oral and written communication of geologic concepts.

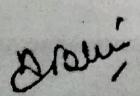
  
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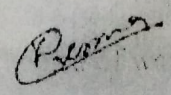
  
 Subject Expert

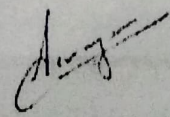
  
 Subject Expert

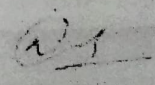
  
 Subject Expert

  
 Subject Expert









DEPARTMENT OF GEOLOGY  
GOVT. DIGNITY PG AUTONOMOUS COLLEGE, R.J.M. (C.G.)  
B.Sc. Geology 2020 - 2021

Syllabus and Marking Scheme for B.Sc. Part - I Geology

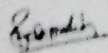
Paper No.	Title of the Paper	Marks Allotted in Theory	
		Max	Min
I	Geodynamics & Geomorphology	50	17
II	Mineralogy & Crystallography	50	17
	Practical	50	17
	<b>Total</b>	<b>150</b>	


02 Theory papers	-	100
01 Practical	-	50
<b>Total Marks</b>	-	<b>150</b>


Course Outcome course code: - BGL01, Paper-I Geodynamics & Geomorphology

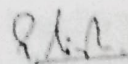
On completion of Course, the students will be able to

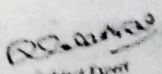
1. Discuss about basics of Geology, Solar system and Atmosphere
2. Evaluate the Theories of Origin of Earth and Age of the Earth
3. Demonstrate the Geological time scale and internal structure of the Earth
4. Explain the agents of weathering and its products
5. Discuss the theory of plate tectonics and demonstrate the causes of Earthquakes and volcanoes.
6. Outline about the concept of geomorphology and geological work of wind
7. Demonstrate the landforms created by river and lakes.
8. Evaluate the landforms created by Groundwater and describe about drainage pattern
9. Explain about the landforms developed by glaciers
10. Describe the geological work of sea.

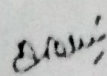
  
Chairperson H.O.D.

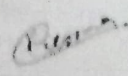
  
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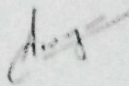
  
Subject Expert

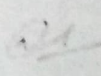
  
Subject Expert

  
Subject Expert

  
Senior Professor of Science Faculty

  
Departmental members

  
Alumnus

  
Student member

**DEPARTMENT OF GEOLOGY**  
**GOVT. NGUNJAY PG AUTONOMOUS COLLEGE, RTM (C.G.)**  
**B.Sc. Geology 2020 – 2021**

Question Paper Format and Distribution of Marks for Under Graduate Examination

1. The question paper for UG Classes is to be divided into three Sections - A, B & C.
2. Section A shall contain very short answer type questions (answer in one or two sentences) or objective type questions. (No Multiple choice questions. No 'fill in the blank' type Questions)
3. Section B shall contain short answer type questions with the limit of 150 words.
4. Section C shall contain long answer/descriptive type questions. The students are required to answer precisely and the answer should not exceed the limit of 350 words.
5. The scheme of marks should be as follows :

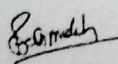
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
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
**Course Outcome Paper-II Mineralogy and Crystallography**

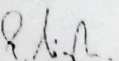
On completion of Course, the students will be able to

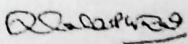
1. Identify the physical and chemical properties of the minerals
2. Explain about verities of minerals in Quartz and Feldspar Groups
3. Demonstrate minerals in Pyroxene Groups.
4. Classify the minerals in Amphibole, Olivine, Mica, Garnet minerals.
5. Identify the Optical Characteristics of various Minerals.
6. Explain about the basics of crystallography, various crystal forms, Crystallographic Axis and symmetry elements
7. Differentiate Isometric and Tetragonal crystal forms.
8. Identify and describe the Hexagonal, rhombohedral and mineral forms
9. Identify the Orthorhombic, Monoclinic and triclinic crystal forms.
10. Describe about Twinning in crystals.

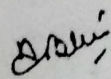
  
 Chairperson / A.O.D

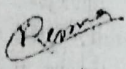
  
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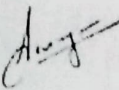
  
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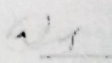
  
 Subject Expert

  
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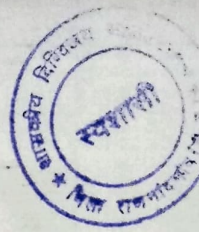
  
 Senior Professor of Science Faculty

  
 Departmental members

  
 Alumnus

  
 Student member

DEPARTMENT OF GEOLOGY  
GOVT. DIGVIJAY PG AUTONOMOUS COLLEGE, RITM (C.G.)  
B.Sc. Geology 2020 – 2021



Syllabus and Marking Scheme for B.Sc. Part – II Geology

Paper No.	Title of the Paper	Marks Allotted in Theory	
		Max	Min
I	Petrology	50	17
II	Structural Geology	50	17
	Practical	50	17
	<b>Total</b>	<b>150</b>	

02 Theory papers	-	100
01 Practical	-	50
Total Marks	-	150

Course Outcome Paper-I Petrology

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. Identify, describe and classify sedimentary rocks using hand specimens
4. Describe the formation of sedimentary rocks, their textures and structures
5. Explain about the formation of metamorphic rocks, their texture and structure
6. Identify and classify various types of metamorphic rocks
7. Explain the concept of metamorphic facies, ACF, AKF and AFM diagrams

Chairperson II O.D.

Subject Expert

Subject Expert

Subject Expert

Subject Expert

Senior Professor of Science Faculty

Departmental members

Alumnus

Student member

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**DEPARTMENT OF GEOLOGY**  
**GOVT. PG AUTONOMOUS COLLEGE, TN (C.G.)**  
**B.Sc. Geology 2020 - 2021**



Question Paper Format and Distribution of Marks for Under Graduate Examination

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6. The half yearly internal examinations will be held. 10% out of marks obtained by the students in each paper in internal examinations will be added to 90% of marks obtained in each paper of annual examination

**Course Outcome Paper-II Structural Geology**

On completion of Course, the students will be able to

1. Explain about parts of fold and classify various folds
2. Recognize and classify the faults in the field and on geological map
3. Identify and classify Unconformities
4. Discuss about various types of Joints
5. Demonstrate the origin of foliation and lineation
6. Identify the top and bottom of rock beds in a series of rocks

*[Signature]*  
Chairperson /H.O.D

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Subject Expert

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Subject Expert

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Subject Expert

*[Signature]*  
Subject Expert

*[Signature]*  
Senior Professor of Science Faculty

*[Signature]*  
Departmental members

*[Signature]*  
Alumna

*[Signature]*  
Student member



**DEPARTMENT OF GEOLOGY**  
**GOVT. DURGAM CHAITANYA PG AUTONOMOUS COLLEGE, RYIN - (C.G.)**  
**B.Sc. Geology 2020 - 2021**

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**Course Outcome B.Sc. Part-II Geology Lab Course**

On completion of this course, the students will be able to

1. Analyze the contour maps and assess the strike and dip using Clinometers and Brunton compass
2. Compute the thickness of the outcrops
3. Identify the true and apparent dip through trigonometrical calculation and graphical method
4. Construct geological cross section from given geological map
5. Identify igneous, sedimentary and metamorphic rocks in hand specimen
6. Describe microscopic properties of igneous, sedimentary and metamorphic rocks

*[Signature]*  
 Chairperson / H.O.D

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 Subject Expert

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 Subject Expert

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 Subject Expert

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 Senior Professor of Science Faculty

*[Signature]*  
 Departmental members

*[Signature]*  
 Alumnus

*[Signature]*  
 Student member

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**B.Sc. Geology 2020 – 2021**



**Syllabus and Marking Scheme for B.Sc. Part – III Geology**

Paper No.	Title of the Paper	Marks Allotted in Theory	
		Max	Min
I	Earth Processes and Resources	50	17
II	Natural Environment, Remote sensing, Groundwater and Mineral Exploration	50	17
	Practical	50	17
02	Total	150	

Theory papers - 100  
 01 Practical - 50  
 Total Marks - 150

**Course Outcome Paper I: Earth Processes and Resources**

On completion of Course, the students will 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. Explain about the mineral policies of India
6. Understand about the origin, occurrence and properties of Coal
7. Discuss the age and occurrences of the coal
8. Explain about the petrography of Coal
9. Outline the origin and occurrences of the Petroleum

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 Chairperson H.O.D.

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 Subject Expert

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 Subject Expert

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 Subject Expert

*[Signature]*  
 Senior Professor of Science Faculty

*[Signature]*  
 Departmental members

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*[Signature]*  
 Student member

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**DEPARTMENT OF GEOLOGY**  
**GOVT. DIGVIJAY PG AUTONOMOUS COLLEGE, RTN (C.G.)**  
**B.Sc. Geology 2020 – 2021**

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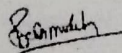
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
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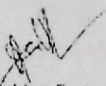
**Course Outcome Paper II: Natural Environment, Remote sensing, Groundwater and Mineral Exploration**

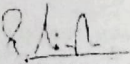
On completion of Course, the students will be able to

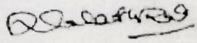
1. Understand the basics of Environmental Geology and Natural Disaster Management
2. Evaluate the impact of human activities on soil, groundwater and other natural resources
3. Describe about the basic principles of Geophysics and its application.
4. Explain the field procedure and interpretation of geophysical data for groundwater exploration.
5. Explain the various geological methods of Mineral exploration
6. Describe geophysical methods of mineral exploration
7. Understand the methods of groundwater exploration
8. Outline the basics of engineering geology and its applications.
9. Understand the occurrence and availability of groundwater resources and the role of the hydrologic cycle
10. Explain fundamentals of Aerial photographs and Satellite Imageries and application of remote sensing in geological studies.

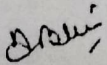
  
Chairperson /H.O.D


  
Subject Expert

  
Subject Expert

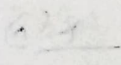
  
Subject Expert

  
Subject Expert

  
Senior Professor of Science Faculty

  
Departmental members

  
Alumnus

  
Student member



Appro

**DEPARTMENT OF GEOLOGY**  
**GOVT. DIGVIJAYPG AUTONOMOUS COLLEGE, RIN (C.G.)**  
**B.Sc. Geology 2020 - 2021**

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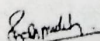
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
**Course Outcome B.Sc. Part-III Geology Lab Course**

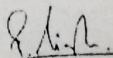
On completion of Course, the students will be able

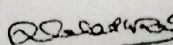
1. Identify ore forming minerals in hand specimen.
2. Demarcate ore deposits and economic mineral deposits in Outline map of India.
3. Estimate the ore reserves from the given data.
4. Interpret aerial photographs with the help of stereoscope.
5. Visually interpret satellite Imageries.
6. Construct and interpret water table maps on the basis of given data


  
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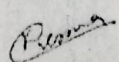
  
Subject Expert

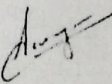
  
Subject Expert

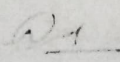
  
Subject Expert

  
Subject Expert

  
Senior Professor of Science Faculty

  
Departmental members

  
Alumnus

  
Student member