



গড়গাঁও মহাবিদ্যালয়  
GARGAON COLLEGE

**TEACHING PLAN**  
**DEPARTMENT OF GEOGRAPHY**  
**JULY 2021 - JUNE 2022**

**GARGAON COLLEGE**  
**TEACHING PLAN**

Course: B. A.

Session: Odd semester 2021

**Subject:** GEOGRAPHY

**Name of the Teacher:** DWIJEN NATH

**Methods to be applied:** Lecture, globe, chart, analytical and activity method, interaction and discussion.

**Teaching Materials:** Green Board, Chart, Globe, Chalk Pencil, Duster, Book, Journal, Newspaper, Magazine, Periodicals, Laptop, and Projector.

<b>Paper Code /Title</b>	<b>Allotted Unit/ Topic</b>	<b>No. of Class required</b>	<b>Detail of the topics to be taught &amp; class required</b>	<b>No. of tutorials</b>
<b>Geomorphology and Bio-Geography- GGRM 101 T4</b>	i. Definition, scope and significance of Bio Geography	6	<ul style="list-style-type: none"> <li>• Definition of Bio Geography [2]</li> <li>• Scope of Bio Geography [2]</li> <li>• Significance of Bio Geography [2]</li> </ul>	3
	ii. World distribution of plants and its relation to soil, climate and human activities	5	<ul style="list-style-type: none"> <li>• World distribution of soil [2]</li> <li>• World distribution of plants [2]</li> <li>• Climate and Human activity [1]</li> </ul>	3
	iii. World distribution of animals and its relation with vegetation, climate and Human activities	5	<ul style="list-style-type: none"> <li>• World distribution of animal[2]</li> <li>• Relation with vegetation[1]</li> <li>• Relation with climate [1]</li> <li>• Relation with Human activity [1]</li> </ul>	3
	iv. Soil – soil forming processes, classification and distribution of soil, soil horizon and profile, soil erosion and conservation. Importance of soil, major soil types of India and Assam	9	<ul style="list-style-type: none"> <li>• Soil forming processes [1]</li> <li>• Classification of soil [2]</li> <li>• Distribution of soil [1]</li> <li>• Soil horizon and profile [1]</li> <li>• Soil erosion and conservation [1]</li> <li>• Importance of soil [1]</li> <li>• Major soil types of India and Assam [2]</li> </ul>	2
<b>Climatology GGRM 102 T4</b>	i. . Cyclones – Tropical Cyclones, Extra Tropical Cyclones, Monsoon - Origin and Mechanism.	8	<ul style="list-style-type: none"> <li>• Tropical Cyclone [2]</li> <li>• Extra Tropical Cyclones [2]</li> <li>• Monsoon Origin [2]</li> <li>• Monsoon Mechanism [2]</li> </ul>	2

<b>Cartography 301 T4</b>	History of development of map projections, classification and use of different types of map projections, Choice of map projection	8	<ul style="list-style-type: none"> <li>• History of development of map projections,</li> <li>• Classification of map projections</li> <li>• use of different types of map projections</li> <li>• Choice of map projection</li> </ul>	2
	Basic principles of surveying and their necessity in Geography : Vertical and horizontal controls	10	<ul style="list-style-type: none"> <li>• Introduction to Basic principles of surveying and their necessity in Geography</li> <li>• Vertical and horizontal controls</li> </ul>	3
<b>Cartographic Techniques GGRM 302 P2</b>	i. Projection: Conical One Standard, Bonne's and Polyconic Cylindrical;	5	<ul style="list-style-type: none"> <li>• Conical Projection</li> <li>• One Standard Projection</li> <li>• Bonne's Projection</li> <li>• Polyconic Cylindrical Projection</li> </ul>	2
<b>Population Geography GGRM 502 T4</b>	i. Defining the Field – Nature and Scope; Sources of Data with special reference to India (Census, Vital Statistics and NSS).	8	<ul style="list-style-type: none"> <li>• Defining the Field – Nature and Scope</li> <li>• Sources of Data with special reference to India (Census, Vital Statistics and NSS).</li> </ul>	3
	ii. Population Size, Distribution and Growth – Determinants and Patterns; Theories of Growth – Malthusian Theory and Demographic Transition Theory.	10	<ul style="list-style-type: none"> <li>• . Population Size, Distribution and Growth – Determinants and Patterns</li> <li>• Theories of Growth – Malthusian Theory and Demographic Transition Theory.</li> </ul>	3
	iii. Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications.	10	<ul style="list-style-type: none"> <li>• .Population Dynamics:</li> <li>• Fertility</li> <li>• Mortality</li> <li>• Migration – Measures</li> <li>• Determinants and Implications</li> </ul>	4

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**Teaching Materials:** Green Board, Chalk Pencil, Duster, Book, Journal, Newspaper, Magazine, Periodicals, Laptop, and Projector.

Paper Code/Title	Allotted Unit/ Topic	No. of Class required	Detail of the topics to be taught & class required	No. of tutorials
<b>Geography of India</b> <b>GGRM 202 T4</b>	i. Economic: Mineral and power resources distribution and utilization of iron ore, coal, petroleum, gas; agricultural production and distribution of rice and wheat, industrial development : automobile and Information technology	13	<ul style="list-style-type: none"> <li>• Mineral and power resources distribution and utilization of iron ore</li> <li>• Mineral and power resources distribution and utilization of coal</li> <li>• Mineral and power resources distribution and utilization of petroleum</li> <li>• Mineral and power resources distribution and utilization of natural gas</li> <li>• agricultural production and distribution of rice</li> <li>• agricultural production and distribution of wheat</li> <li>• industrial development : automobile and Information technology</li> </ul>	4
	ii. Resource-agriculture, mineral, forest and Industries of Assam	4	<ul style="list-style-type: none"> <li>• Introduction to the resource</li> <li>• agriculture of Assam</li> <li>• mineral of Assam</li> <li>• forest of Assam</li> <li>• Industries of Assam</li> </ul>	2
<b>Practical on Thematic Cartography</b> <b>GGRM 202 P2</b>	i. Thematic mapping of NE India Preparation of maps showing geographical themes – soil, industries, population minerals,	4	<ul style="list-style-type: none"> <li>• Introduction to the Thematic mapping</li> <li>• Preparation of maps showing geographical themes – soil industries mapping of NE India</li> <li>• Preparation of maps showing geographical themes –</li> </ul>	2

	forest, agriculture etc		population minerals mapping of NE india • Preparation of maps showing geographical themes – forest, agriculture mapping of NE india •	
<b>Economic Geography GGRM 401 T6</b>	i. Tertiary Activities: Transport, Trade and Services.	10	• Introduction to the Tertiary • Transport, Trade and Services.	3
<b>Environmental Geography GGRM 402 T6</b>	i. Human-Environment Relationships – Historical Progression, Adaptation in Different Biomes.	12	• Human-Environment Relationships • Historical Progression • Adaptation in different Biomes	4
	ii. Ecosystem – Concept, Structure and Functions	12	• Concept of Ecosystem • Structure of Ecosystem • Functions of Ecosystem	4
<b>Industrial Geography GGRM GE 401 AT6</b>	Industrial Policy of India	10	• Industrial Policy of India	3

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**GARGAON COLLEGE**  
**TEACHING PLAN**

Course: B. A.

Session: Odd semester 2021

**Subject:** GEOGRAPHY

**Name of the Teacher:** DR. DILIP KUMAR DEKA

**Methods to be applied:** Lecture, illustration, demonstration, analytical and activity method, interaction and discussion.

**Teaching Materials:** Green Board, Chalk Pencil, Duster, Atlas, Toposheet, Maps, Globe, Charts, Models, Geographical tools, Book, Journal, Newspaper, Magazine, Laptop, and Projector.

Paper Code/Title	Allotted Unit/ Topic	No. of Classes Required	Detail of the topics to be taught & class required	No. of tutorials
<b>SEMESTER I</b>				
<b>COURSE C1 (Theory)</b> <b>GGRM 101T4:</b> <b>GEOMORPHOLOGY</b> <b>AND BIO</b> <b>GEOGRAPHY</b>	1. Earth: Interior Structure and Isostasy.	6	<ul style="list-style-type: none"> <li>• Interior Structure of the Earth</li> <li>• Isostasy</li> </ul>	2
	2. Earth Movements: Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes.	10	<ul style="list-style-type: none"> <li>• Movements of the earth</li> <li>• Plate tectonic and the theories related to it</li> <li>• Concept of folds and faults</li> <li>• Concept of earthquake</li> <li>• Concept of volcanoes</li> </ul>	4
	3. Geomorphic Processes: Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck).	10	<ul style="list-style-type: none"> <li>• Geomorphic Processes</li> <li>• Concept of Weathering</li> <li>• Mass Wasting</li> <li>• Cycle of Erosion: Davis</li> <li>• Cycle of Erosion: Penck</li> </ul>	4
<b>COURSE C1</b> <b>GGRM 101P2:</b> <b>GEOMORPHIC</b> <b>TECHNIQUES</b>	1. Morphometric Analysis: Drainage ordering, basin	6	<ul style="list-style-type: none"> <li>• Concept of morphometric analysis</li> </ul>	2

<b>(PRACTICAL)</b>	area demarcation, drainage density, Bifurcation ratio.		<ul style="list-style-type: none"> <li>• Drainage Ordering: Horton's Method</li> <li>• Drainage Ordering: Strahler's Method</li> <li>• Basin Area Demarcation</li> <li>• Drainage Density</li> <li>• Bifurcation Ratio</li> </ul>	
<b>COURSE C2 GGRM 102T4 CLIMATOLOGY (THEORY)</b>	1. Atmospheric Composition and Structure – Variation with Altitude, Latitude and Season.	5	<ul style="list-style-type: none"> <li>• Concept of Atmosphere and its Composition</li> <li>• Structure of Atmosphere, its variation with altitude, latitude and Season</li> </ul>	1
	2. Insolation and Temperature – Factors and Distribution, Heat Budget, Temperature Inversion.	7	<ul style="list-style-type: none"> <li>• Concept of insolation, factors affecting insolation</li> <li>• Temperature, factors affecting temperature and its distribution</li> <li>• Heat budget</li> <li>• Concept of Temperature Inversion</li> </ul>	2
<b>SEMESTER III</b>				
<b>COURSE C5 GGRM 301T4: CARTOGRAPHY (THEORY)</b>	1. Surveying and leveling: i) Plane table surveying – different methods ii) Prismatic compass surveying – closed and open traverse, calculation of included angles, correction of bearing, omitted measurement iii) Theodolite traversing – measurement of	22	<ul style="list-style-type: none"> <li>• Concept of Surveying and Levelling</li> <li>• Plane Table Surveying: Different Methods</li> <li>• Prismatic Compass Surveying: Closed and Open Traverse [6]</li> <li>• Theodolite Surveying: Measurement of height</li> </ul>	6

	heights iv) Levelling – different types		<ul style="list-style-type: none"> <li>• Levelling and its types</li> </ul>	
<b>C5 GGRM 302P2: CARTOGRAPHIC TECHNIQUES (PRACTICAL)</b>	1. Projection: Equal Area, Equidistant, Galls Stereography and Mercator projection.	4	<ul style="list-style-type: none"> <li>• Projection: Equal Area</li> <li>• Projection : Equidistant</li> <li>• Projection: Gall's Stereographic</li> <li>• Projection: Mercator's</li> </ul>	2
<b>COURSE C7 GGRM 303T6: STATISTICAL METHODS IN GEOGRAPHY (THEORY)</b>	1. Use of Data in Geography: Geographical Data Matrix, Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio).	9	<ul style="list-style-type: none"> <li>• Concept of Geographical Data</li> <li>• Use of data in geography</li> <li>• Geographical Data Matrix</li> <li>• Statistical Methods in Geography</li> <li>• Sources of data</li> <li>• Scales of Measurement</li> </ul>	3
	2. Tabulation and Descriptive Statistics: Frequencies (Deciles, Quartiles), Cross Tabulation, Central Tendency (Mean, Median and Mode, Centographic Techniques, Dispersion (Standard Deviation, Variance and Coefficient of Variation).	14	<ul style="list-style-type: none"> <li>• Tabulation and Descriptive Statistics</li> <li>• Deciles and Quartiles</li> <li>• Cross Tabulation</li> <li>• Central Tendency: Mean, Median Mode</li> <li>• Techniques of Dispersion: Standard Deviation, Variance and coefficient of Variation</li> </ul>	4
	3. Sampling: Purposive, Random, Systematic and Stratified.	5	<ul style="list-style-type: none"> <li>• Concept of Sampling</li> <li>• Purposive, random, systematic and Stratified sampling</li> </ul>	2



**SEMESTER V**

<b>Course C12 GGRM502T4: POPULATION GEOGRAPHY (Theory)</b>	1. Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications.	7	<ul style="list-style-type: none"> <li>• Population dynamics</li> <li>• Fertility and its various determinants and its implications</li> <li>• Mortality and its various determinants and its implications</li> <li>• Migration, types of migration, its determinants and its implications</li> </ul>	3
	2. Population Composition and Characteristics – Age-Sex Composition; Rural and Urban Composition; Literacy.	9	<ul style="list-style-type: none"> <li>• Composition of population and its various features</li> <li>• Age Sex composition</li> <li>• Rural and Urban Composition Literacy and its composition in India</li> </ul>	3
	3. Contemporary Issues – Ageing of Population; Declining Sex Ratio; HIV/AIDS.	4	<ul style="list-style-type: none"> <li>• Major contemporary issues of population</li> <li>• Ageing of Population</li> <li>• Declining Sex Ratio</li> <li>• Problem of HIV/AIDS</li> </ul>	2
<b>Course C12 GGRM 502P2: POPULATION GEOGRAPHY (Practical)</b>	1. Statistical Data representation Part I  c) Traffic flow and isochronic cartograms	4	<ul style="list-style-type: none"> <li>• Concept of traffic flow and its representation: India and North-East India</li> <li>• Isochronic cartograms: India and Assam</li> </ul>	2
	2. Statistical Data representation Part	2	<ul style="list-style-type: none"> <li>• Location Quotient analysis: Assam</li> </ul>	2

	II a) Location quotient analysis b) Lorenz curve		<ul style="list-style-type: none"> <li>• Location Quotient analysis</li> </ul>	
<b>DSE 2 (6 C)</b> <b>GGRM DSE502BT6:</b> <b>AGRICULTURAL</b> <b>GEOGRAPHY</b>	1. Defining the Field: Introduction, nature and scope; Land use/ land cover definition and classification.	4	<ul style="list-style-type: none"> <li>• Concept of agricultural geography: Meaning and Definition</li> <li>• Nature and Scope of agriculture geography</li> <li>• Concept of Land Use and Land Cover</li> <li>• Land use and land cover classification</li> </ul>	2
	2. Determinants of Agriculture: Physical, Technological and Institutional	4	<ul style="list-style-type: none"> <li>• Determinants of agriculture, physical, technological and institutional</li> </ul>	1
	3. Agricultural Regions of India: Agro-climatic, Agro-ecological & Crop Combination Regions.	3	<ul style="list-style-type: none"> <li>• Agro-climatic regions of India</li> <li>• Agro-Ecological Regions of Indi</li> <li>• Crop Combination Regions</li> </ul>	1

# GARGAON COLLEGE

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Course: B. A.

Session: Even semester 2022

**Subject:** GEOGRAPHY

**Name of the Teacher:** DR. DILIP KUMAR DEKA

**Methods to be applied:** Lecture, illustration, demonstration, analytical and activity method, interaction and discussion.

**Teaching Materials:** Green Board, Chalk Pencil, Duster, Atlas, Toposheet, Maps, Globe, Charts, Models, Geographical tools, Book, Journal, Newspaper, Magazine, Laptop, and Projector.

Paper Code/Title	Allotted Unit/ Topic	No. of Class required	Detail of the topics to be taught & class required	No. of tutorials
<b>SEMESTER II</b>				
<b>Course C4 GGRM 202T4: GEOGRAPHY OF INDIA (Theory)</b>	1. Physical: Physiographic Divisions, soil and vegetation, climate (characteristics and classification)	6	<ul style="list-style-type: none"><li>• Physiographic Divisions of India and its characteristics</li><li>• Classification of Soil of India and its characteristics</li><li>• Classification of Vegetation of India and its characteristics</li><li>• Classification of Climate of India and its characteristics</li></ul>	2
	2. Physical Geography of North East India.	6	<ul style="list-style-type: none"><li>• Physiographic Divisions of North-East India and its characteristics</li><li>• Classification of Soil of North-East India and its characteristics</li><li>• Classification of Vegetation of North-East India and its characteristics</li><li>• Classification of Climate of North-East India and its characteristics</li></ul>	2
<b>COURSE C4 GGRM 202P2: PRACTICAL ON THEMATIC CARTOGRAPHY</b>	1. Age- sex pyramid: Develop and developing countries.	2	<ul style="list-style-type: none"><li>• Age- sex pyramid: Develop and developing countries.</li></ul>	1
<b>GE 2 GGRM GE201BT6 : REGIONAL</b>	1. Problem Regions and Regional	10	<ul style="list-style-type: none"><li>• Concept of problem Regions and various regions in India</li></ul>	4

<b>DEVELOPMENT</b>	Planning: Backward Regions and Regional Plans- Special Area Development Plans in India; DVC-The Success Story and the Failures.		<ul style="list-style-type: none"> <li>• Concept of Regional Planning and its types</li> <li>• Backward Regions and Development Plans</li> <li>• Special Area Development and its plans</li> <li>• DVC: The success story and failures</li> </ul>	
<b>SEMESTER IV</b>				
<b>COURSE C8 GGRM401T6 : ECONOMIC GEOGRAPHY (THEORY)</b>	1. Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.	7	<ul style="list-style-type: none"> <li>• Concept of Secondary Activities</li> <li>• Cotton Textile Industries of India</li> <li>• Iron and Steel Industries of India</li> <li>• Concept of Manufacturing Regions</li> <li>• Special economic zones</li> <li>• Technological Parks</li> </ul>	2
<b>Course C 9 GGRM402T6: ENVIRONMENTAL GEOGRAPHY (Theory)</b>	1.Environmental Geography – Concept and Scope	2	<ul style="list-style-type: none"> <li>• Concept of environmental geography, meaning and definition</li> <li>• Nature and Scope of environmental geography</li> </ul>	1
	2.Environmental Problems in Tropical, Temperate and Polar Ecosystems	3	<ul style="list-style-type: none"> <li>• Environmental Problems in Tropical Region</li> <li>• Environmental Problems in Temperate Region</li> <li>• Environmental Problems in Polar Region</li> </ul>	1
	3.Environmental Programmes and Policies – Global, National and Local levels		<ul style="list-style-type: none"> <li>• Environmental Programmes: Global, national and Local Levels</li> <li>• Environmental Policies: Global, national and Local Levels</li> </ul>	
<b>GE 4 (6 C) GGRM GE401AT6: INDUSTRIAL GEOGRAPHY</b>	1. Impact of Industrialization in India: Environmental; Social and Economic	4	<ul style="list-style-type: none"> <li>• Concept of Industrialization</li> <li>• Impact of industrialization in India Environmental; Social and Economic</li> </ul>	2
<b>SEMESTER VI</b>				
<b>Course C 13</b>	1. Paradigms in	8	<ul style="list-style-type: none"> <li>• Various paradigms in</li> </ul>	2

<b>GGRM601T6: EVOLUTION OF GEOGRAPHICAL THOUGHT (Theory)</b>	Geography		Geography	
	2. Pre-Modern – Early Origins of Geographical Thinking with reference to the Classical and Medieval Philosophies.	18	<ul style="list-style-type: none"> <li>• Pre-Modern: Early Origins of Geographical Thinking and the various school of thoughts</li> <li>• Classical Origins of Geographical Thinking and the various school of thoughts</li> <li>• Medieval Origins of Geographical Thinking and the various school of thoughts</li> <li>•</li> </ul>	4
	3. Modern – Evolution of Geographical Thinking and Disciplinary Trends in Germany, France, Britain, United States of America.	14	<ul style="list-style-type: none"> <li>• Evolution of Geographical Thinking in the school of Germany</li> <li>• Evolution of Geographical Thinking in the school of France</li> <li>• Evolution of Geographical Thinking in the school of Britain</li> <li>• Evolution of Geographical Thinking in the school of United States of America</li> </ul>	4
	4. Debates – Environmental Determinism and Possibilism, Systematic and Regional, Ideographic and Nomeothetic.	6	<ul style="list-style-type: none"> <li>• Debates on environmental Determinism and Possibilism</li> <li>• Debates on Systematic and Regional Geography</li> <li>• Debates on Ideographic and Nomeothetic Geography</li> </ul>	2
	5. Trends – Quantitative Revolution and its Impact, Behaviouralism, Systems Approach, Radicalism, Feminism;	10	<ul style="list-style-type: none"> <li>• Quantitative evolution and its Impact on Behaviouralism</li> <li>• Study of the Systematic approach</li> <li>• Radical school of Thought and Feminism</li> <li>• Post Modern theories</li> </ul>	4

	Towards Post Modernism – Changing Concept of Space in Geography, Future of Geography.		related to Geography: Concept of Space in Geography • Future of Geography	
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Course: B. A.

Session: Odd semester 2021

**Subject:** GEOGRAPHY

**Name of the Teacher:** MONURAMA PHUKON

**Methods to be applied:** Lecture, illustration, demonstration, analytical and activity method, interaction and discussion.

**Teaching Materials:** Green Board, Chalk Pencil, Duster, Atlas, Toposheet, Maps, Globe, Charts, Models, Geographical tools, Book, Journal, Newspaper, Magazine, Laptop, and Projector.

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<b>SEMESTER I</b>					
<b>COURSE C1 (Theory) GGRM 101T4: GEOMORPHOLOGY AND BIO GEOGRAPHY</b>	1. Geomorphology: Nature and Scope	5	<ul style="list-style-type: none"> <li>• Concept, Meaning and Definition of Geomorphology</li> <li>• Nature</li> <li>• Scope</li> <li>• Recent Trends in geomorphology</li> </ul>	1	
	<b>COURSE C1 GGRM 101P2: GEOMORPHIC TECHNIQUES (PRACTICAL)</b>	1. Cartography: Nature and Scope	5	<ul style="list-style-type: none"> <li>• Concept, Meaning and Definition of Geomorphology</li> <li>• Nature</li> <li>• Scope</li> </ul>	
		2. Scales–Concept and application; Graphical Construction of Plain, Comparative and Diagonal Scales.	7	<ul style="list-style-type: none"> <li>• Scales, Concept and Application</li> <li>• Types of Scales</li> <li>• Graphical Construction of Plain</li> <li>• Comparative and Diagonal Scales, their construction and application</li> </ul>	2
	3. Topographical	7	<ul style="list-style-type: none"> <li>• Concept of</li> </ul>	2	

	Map–Interpretation of a Mountain area with the help of Cross and Longitudinal Profiles.		<p>topographical Maps, Meaning and Definition</p> <ul style="list-style-type: none"> <li>• Interpretation of Mountain Area with the help of Cross and Longitudinal profiles</li> </ul>	
<b>COURSE C2 GGRM 102P2: PRACTICALS BASED ON CLIMATIC DATA</b>	1.Studyofweather symbols	2	<ul style="list-style-type: none"> <li>• Concept of Weather symbols, types of different symbols, their illustration and interpretation with map applicability</li> </ul>	3
	2. Indian daily weather map interpretation for the summer and winter seasons.	4	<ul style="list-style-type: none"> <li>• Weather map interpretation of summer seasons for the month of April, May, June July and their progression</li> <li>• Weather map interpretation of winter seasons for the month of October, November, December, January and their progression</li> </ul>	2
	3.Representation of climatic data: (a) Preparation of Climograph, Hythergraph and Ergograph and their interpretation	3	<ul style="list-style-type: none"> <li>• Preparation of Climograph and their interpretation</li> <li>• Preparation of Hythergraph and their interpretation</li> <li>• Preparation of Ergograph and their interpretation [1]</li> </ul>	1
<b>GE 1 GGRM GE 101BT6:</b>	1. Scopeand Nature: Concepts	8	<ul style="list-style-type: none"> <li>• Concept of</li> </ul>	2



<b>GEOGRAPHY OF TOURISM</b>	and Issues, Tourism, Recreation and Leisure Inter-Relations; Geographical Parameters of Tourism by Robinson.		<ul style="list-style-type: none"> <li>• Tourism</li> <li>• Scope and Nature of Tourism</li> <li>• Contemporary issues of Tourism</li> <li>• Concept of recreation and recreational hubs in India [</li> <li>• Concept of Leisure and its interrelation with recreation and tourism</li> <li>• Geographical Parameters of tourism by Robinson</li> </ul>	
	2. Type of Tourism: Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage	6	<ul style="list-style-type: none"> <li>• Different Types of Tourism : Natural tourism, Cultural tourism, Medical Tourism, Pilgrimage Tourism</li> </ul>	2
	3. Recent Trends of Tourism: International and Regional; Domestic (India); Eco-Tourism, Sustainable Tourism, Meetings Incentives Conventions and Exhibitions (MICE)	8	<ul style="list-style-type: none"> <li>• Recent Trends in Tourism: International and regional</li> <li>• Domestic trends of tourism in India, special reference to North East India</li> <li>• Concept of Eco-Tourism and Sustainable Tourism and their locations in India</li> <li>• Meetings Incentives, Conventions and Exhibitions (MICE)</li> </ul>	2

	4.Impactof	4	• Impact of	1
	Tourism: Economy; Environment; Society		Tourism in Economy, Environment and Society and their interrelationship ps	
	5. Tourism in India: Tourism Infrastructure; Case Studies of Himalaya, Desert and Coastal Areas; National Tourism Policy	8	<ul style="list-style-type: none"> <li>• Tourism Infrastructure India</li> <li>• Tourism Infrastructure:2 Case studies of Himalayas</li> <li>• Tourism Infrastructure:2 Case studies of Desert Areas</li> <li>• National Tourism Policy</li> </ul>	2

**SEMESTERIII**

<b>COURSE C6 GGRM302T6: REGIONAL GEOGRAPHY OF WORLD(THEORY)</b>	1.Distribution of population of world	4	<ul style="list-style-type: none"> <li>• World Population Distribution</li> <li>• Factors influencing distribution of world population</li> <li>• Pattern of World population distribution</li> </ul>	1
	2.Regional studies of Middle East and South East Asia and the Mediterranean region	8	<ul style="list-style-type: none"> <li>• Regional Study of Middle East</li> <li>• Regional Study of South East Asia</li> <li>• Regional study of Mediterranean Region</li> </ul>	4
<b>GE 3 GGRM GE301BT6: RURAL DEVELOPMENT</b>	1.Defining Development: Inter-Dependence of Urban and	8	<ul style="list-style-type: none"> <li>• Concept of Development, Concept of Rural</li> </ul>	2

	Rural Sectors of the Economy; Need for Rural Development, Gandhian Approach of Rural Development		Development, Meaning and Definition <ul style="list-style-type: none"> <li>• Interdependence of Urban and Rural Sectors of Economy</li> <li>• Need of Rural Development with special reference to India</li> <li>• Gandhian approach of Rural Development</li> </ul>	
	2.Rural Economic Base: Panchayati raj System, Agriculture and Allied Sectors, Seasonality and Need for Expanding Non-Farm Activities, Co-operatives, PURA.	8	<ul style="list-style-type: none"> <li>• PachayatiRaj system</li> <li>• Agriculture and allied Sectors</li> <li>• Seasonal Employment</li> <li>• Need for Expanding Non-Farm activities</li> <li>• Co-operatives</li> <li>• PURA</li> </ul>	2
	3.Provision of Services – Physical and Socio-Economic Access to Elementary Education and Primary Health Care and Micro credit	8	<ul style="list-style-type: none"> <li>• Provision of Physical and Socio-Economic Access to Elementary Education</li> <li>• Provision of Education</li> <li>• Provision of Primary Health Care</li> <li>• Provision of Micro Credit</li> </ul>	2
<b>SEC1 301AP2:REGIONAL PLANNING AND DEVELOPMENT</b>	1. Concept, Need and Types of regional Planning.	5	<ul style="list-style-type: none"> <li>• Concept of Planning: Regional Planning, Meaning and Definition</li> <li>• Need of</li> </ul>	2

			Regional Planning	
	2. Characteristics and Delineation of Planning Region.	4	<ul style="list-style-type: none"> <li>Types of Regional Planning</li> <li>Characteristics of Planning Region and its various determinants</li> <li>Delineation of Planning Regions</li> </ul>	1
	3. Regionalization of India for Planning (Agro Ecological Zones).	3	<ul style="list-style-type: none"> <li>Regionalization of India: Agro-Ecological Zones</li> </ul>	1
<b>SEMESTER V</b>				
<b>COURSE C11 GGRM 501T4: REGIONAL PLANNING AND DEVELOPMENT (THEORY)</b>	1. Definition of Region, Evolution and Types of Regional Planning: Formal, Functional and planning Regions and Regional Planning, Need for Regional Planning, Types of Regional Planning	11	<ul style="list-style-type: none"> <li>Definition of Region, Meaning and Concept</li> <li>Evolution of Planning Regions</li> <li>Types of Regional Planning</li> <li>Need for regional Planning</li> </ul>	4
	2. Choice of a Region for Planning: Characteristics of an Ideal Planning Region; Delineation of Planning Region; Regionalization of India for Planning (Agro Ecological Zones)	13	<ul style="list-style-type: none"> <li>Choice of a Planning Area for Development</li> <li>Characteristics of an Ideal Planning Regions</li> <li>Delineation of Planning Region</li> <li>Planning Regions of India: Different Views</li> <li>Agro-Ecological Zones of India</li> </ul>	3

<b>COURSE C12 GGRM502T4: POPULATION GEOGRAPHY (PRACTICAL)</b>	1.Distributionof population  a)India, Assam(by simple dot method)	1	<ul style="list-style-type: none"> <li>• .Distribution of population a)India, Assam (by simple dot method) [1]</li> </ul>	4
	2.Densityof population  a)India and Assam( choropleth method)	1	<ul style="list-style-type: none"> <li>• Density of population a)India and Assam (choropleth method)[1]</li> </ul>	4
<b>DSE 1 DSE 501BT6: ECONOMIC GEOGRAPHY</b>	1. Secondary Activities–Cotton Textile Industry, Petro-Chemical Industry, Major Manufacturing Regions.	7	<ul style="list-style-type: none"> <li>• Concept of Secondary activities[1]</li> <li>• Cotton Textile Industry of India [2]</li> <li>• Petro-Chemical Industries of India [2]</li> <li>• Major- Manufacturing Regions of India[2]</li> </ul>	2
	2. Tertiary and Quaternary Activities – Modes of Transportation, Patterns of International Trade, and Information and Communication Technology Industry.	5	<ul style="list-style-type: none"> <li>• Concept of Tertiary and Quaternary Activities[1]</li> <li>• Transportation patterns of International trade [2]</li> <li>• Information and Communication Technology Industry[2]</li> </ul>	1

# GARGAONCOLLEGE

## TEACHING PLAN

Course: B. A.

Session: Even semester 2022

**Subject:** GEOGRAPHY

**Name of the Teacher:** MONURAMA PHUKON

**Methods to be applied:** Lecture, illustration, demonstration, analytical and activity method, interaction and discussion.

**Teaching Materials:** Green Board, Chalk Pencil, Duster, Atlas, Toposheet, Maps, Globe, Charts, Models, Geographical tools, Book, Journal, Newspaper, Magazine, Laptop, and Projector.

Paper Code/Title	Allotted Unit/Topic	No. of Class required	Detail of the topics to be taught & class required	No. of tutorials
<b>SEMESTER II</b>				
<b>COURSE C3 GGRM201T6: HUMAN GEOGRAPHY (THEORY)</b>	1. Introduction: Defining Human Geography; Major Themes; Contemporary Relevance	4	<ul style="list-style-type: none"><li>• Concept of Human Geography, Meaning and Definition</li><li>• Major Themes and Scope of Human Geography</li><li>• Contemporary Relevance of Human Geography</li></ul>	2
	2. Space and Society: Cultural Regions; Race; Religion and Language	10	<ul style="list-style-type: none"><li>• Concept of Space and Society</li><li>• Cultural Regions of the World and India</li><li>• Race and types of racial groups in India.</li><li>• Religion and its types in India</li><li>• Language and its different types in India</li></ul>	4
	3. Population: Population Growth and Distribution; Population Composition; Demographic Transition Theory	12	<ul style="list-style-type: none"><li>• World population distribution</li><li>• Factors influencing population distribution</li><li>• World population growth and its various components</li><li>• History of World Population Growth</li><li>• Demographic Transition</li></ul>	4

			<p>Theory: Thompson</p> <ul style="list-style-type: none"> <li>Demographic Transition Theory: Malthusian</li> </ul>	
<b>COURSE C4 GGRM 202P2: PRACTICAL ON THEMATIC CARTOGRAPHY</b>	1. Thematic mapping and shape index analysis of India	8	<ul style="list-style-type: none"> <li>Preparation of maps showing geographical themes – minerals, forest, agriculture etc.</li> </ul>	5
	2. Thematic mapping of NE India	8	<ul style="list-style-type: none"> <li>Preparation of maps showing geographical themes – soil, industries, population minerals, forest, agriculture etc; [8]</li> </ul>	5
<b>GE 2 GGRMGE201BT6: REGIONAL DEVELOPMENT</b>	1. Definition of Region, Evolution, Types and Need of Regional planning: Formal, Functional, and Planning Regions and Regional Development.	10	<ul style="list-style-type: none"> <li>Concept of Region: Regional Planning, Meaning and Definition</li> <li>Evolution of regions</li> <li>Need of Regional Planning</li> <li>Types of Regional Planning</li> <li>Regional Development with special reference to India and North-East India</li> </ul>	4
	2. Regional Imbalances and Problems of Functional Regions.	6	<ul style="list-style-type: none"> <li>Regional Imbalances: Causes and Consequences;</li> <li>Problems of Functional Regions;</li> </ul>	2
	3. Choice of a Region for Planning: Characteristics of an Ideal Planning Region; Delineation of Planning Region; Regionalization of India for Planning (Agro Ecological Zones)	13	<ul style="list-style-type: none"> <li>Choice of a Planning Area for Development</li> <li>Characteristics of an Ideal Planning Regions</li> <li>Delineation of Planning Region</li> <li>Planning Regions of India: Different Views</li> <li>Agro-Ecological Zones of India</li> </ul>	3
<b>C2 201T6:HUMAN GEOGRAPHY</b>	1. Definition, Nature, Major Subfields, Contemporary Relevance.	4	<ul style="list-style-type: none"> <li>Concept of Human Geography, Meaning and Definition</li> <li>Major Themes and Scope of</li> </ul>	1

			Human Geography	
			<ul style="list-style-type: none"> <li>Contemporary Relevance of Human Geography</li> </ul>	
	2. Space and Society: Cultural Regions; Race; Religion and Language	10	<ul style="list-style-type: none"> <li>Concept of Space and Society</li> <li>Cultural Regions of the World and India</li> <li>Race and types of racial groups in India.</li> <li>Religion and its types in India</li> <li>Language and its different types in India</li> </ul>	2
<b>SEMESTER IV</b>				
<b>COURSE C8 GGRM401T6: ECONOMIC GEOGRAPHY (THEORY)</b>	1. Introduction: Concept and classification of economic activity	3	<ul style="list-style-type: none"> <li>Concepts of Economy and the activities related to it,</li> <li>Types of economic activity</li> </ul>	
	2. Factors Affecting location of Economic Activity with special reference to Agriculture (Von Thunen theory), Industry (Weber's theory).	5	<ul style="list-style-type: none"> <li>Factors affecting location of Economic Activity: Agriculture</li> <li>Von Thunen Agricultural Theory</li> <li>Weber's Industrial Theory</li> </ul>	2
	3. Primary Activities: Subsistence and Commercial agriculture, forestry, fishing and mining.	9	<ul style="list-style-type: none"> <li>Primary activities: Meaning and Major Activities of India</li> <li>Subsistence and Commercial Agriculture : Meaning, and difference between them</li> <li>Forestry, Fishing and mining activities of India And North East India</li> </ul>	3



<b>GE 4 (6 C)</b> <b>GGRM</b> <b>GE401AT6:</b> <b>INDUSTRIAL</b> <b>GEOGRAPHY</b>	1.Natureand Scope of Industrial Geography	3	<ul style="list-style-type: none"> <li>• Concept of Industrial Geography, Meaning and its definition [1]</li> <li>• Nature and Scope of Industrial Geography[1]</li> <li>• Contemporary Relevance of Industrial Geography [1]</li> </ul>	1
	2. Types, Geographical	12	<ul style="list-style-type: none"> <li>• Characteristic of Industries and its types</li> </ul>	4
	Characteristics and Location of Industries (Weber's Theory): Small and Medium Industries, Heavy Industries: Coal and Iron based industries, Rural based Industries, Footloose Industry.		<ul style="list-style-type: none"> <li>• Weber's Industrial Theory [2]</li> <li>• Small, Medium and Heavy Industries[2]</li> <li>• Coal and Iron Based Industries of the World and India [4]</li> <li>• Rural based industries and footloose industries [2]</li> </ul>	
<b>SEMESTERVI</b>				
<b>DSE 4 (6 C)</b> <b>GGRM DSE</b> <b>602BT6:</b> <b>SOCIAL</b> <b>GEOGRAPHY</b>	1. Social Geography: Concept, Origin, Nature and Scope.	3	<ul style="list-style-type: none"> <li>• Concept of Social Geography, Meaning and Definition</li> <li>• Origin of Social geography</li> <li>• Nature and Scope of Social Geography</li> </ul>	1
	2. Peopling Process of India: Technology and Occupational Change; Migration.	6	<ul style="list-style-type: none"> <li>• Peopling Process of India</li> <li>• Technology and Occupational Change and their contribution in the process of peopling</li> <li>• Migration, its determinants, causes and consequences</li> </ul>	2

	<p>3. Social Categories: Caste, Class, Religion, Race and Gender and their Spatial distribution.</p>	<p>12</p>	<ul style="list-style-type: none"> <li>• Concept of Social Categories [1]</li> <li>• Caste, its various divisions, discrimination based on caste is mandates remedies</li> <li>• Class, types of classes in our society, advantages and disadvantages of class separation [2]</li> <li>• Religions, types of religions their distribution in Indian and their social impacts [2]</li> <li>• Race and racial delineation in India and their distribution, and concept of racial discrimination [1]</li> <li>• Gender as a concept and issues related with it</li> </ul>	<p>4</p>
			<p>With current relevance [4]</p>	
	<p>4. Geographies of Welfare and Well being: Concept and Components – Healthcare, Housing and Education.</p>	<p>10</p>	<ul style="list-style-type: none"> <li>• Geography of Welfare and Well being: Various Policies related to it and their impact on the population of India</li> <li>• Various components of Welfare and Well being</li> <li>• Healthcare and its various policies</li> <li>• Housing and its various government policies</li> <li>• Education and the various policies in India</li> </ul>	<p>4</p>
	<p>5. Social Geographies of Inclusion and Exclusion, Slums, Gated Communities, Communal Conflicts and Crime.</p>	<p>8</p>	<ul style="list-style-type: none"> <li>• Social Geographies of Inclusion and exclusion</li> <li>• Concepts of slums and the slums of India</li> <li>• Gated Communities and Communal Conflicts and Crime</li> </ul>	<p>4</p>

<b>DSE 2 DSE601BT6: GEOGRAPHY OF TOURISM (Lecture)</b>	1. Scope and Nature: Concepts and Issues, Tourism, Recreation and Leisure Inter-Relations; Geographical Parameters of Tourism by Robinson.	8	<ul style="list-style-type: none"> <li>• Concept of Tourism</li> <li>• Scope and Nature of Tourism</li> <li>• Contemporary issues of Tourism</li> <li>• Concept of recreation and recreational hubs in India</li> <li>• Concept of Leisure and its interrelation with recreation and tourism</li> <li>• Geographical Parameters of tourism by Robinson</li> </ul>	2
	2. Type of Tourism: Nature Tourism, Cultural Tourism, Medical Tourism, Pilgrimage	6	<ul style="list-style-type: none"> <li>• Different Types of Tourism : Natural tourism, Cultural tourism, Medical Tourism, Pilgrimage Tourism</li> </ul>	1
	3. Recent Trends of Tourism: International	8	<ul style="list-style-type: none"> <li>• Recent Trends in Tourism: International National regional</li> <li>• Domestic trends of</li> </ul>	2
	and Regional; Domestic (India); Eco-Tourism, Sustainable Tourism, Meetings Incentives Conventions and Exhibitions (MICE)		<ul style="list-style-type: none"> <li>• Tourism in India, special reference to North East India</li> <li>• Concept of Eco-Tourism and Sustainable Tourism and their locations in India</li> <li>• Meetings Incentives, Conventions and Exhibitions (MICE)</li> </ul>	
<b>GE 2 GE 601AT6: SUSTAINABILITY AND DEVELOPMENT (Lectures)</b>	1. Sustainability: Definition, Components and Sustainability for Development.	4	<ul style="list-style-type: none"> <li>• Concept of Sustainability: Meaning and Definition</li> <li>• Components of Sustainability for development</li> </ul>	1

2. The Millennium Development Goals: National Strategies and International Experiences	10	<ul style="list-style-type: none"> <li>• Discussion on The Millennium Developmental Goals</li> <li>• National Strategies and International experiences of Sustainable Development: Case study of the various Summits and Conferences</li> </ul>	4
3. Sustainable Development: Need and examples from different Ecosystems.	4	<ul style="list-style-type: none"> <li>• Sustainable Development and its needs: Case studies of various ecosystems of The world as well as local ecosystems</li> </ul>	1
4. Inclusive Development: Education, Health; Climate Change: The role of higher education in sustainability; The human right to health; Poverty and disease; Sustainable Livelihood Model; Policies and Global Cooperation for Climate Change	10	<ul style="list-style-type: none"> <li>• Concept of Inclusive Development and the various component's related to it</li> <li>• Interrelationship between Education, health and Climate Change</li> <li>• Role of Higher education in promoting sustainability</li> <li>• Human Right to Health and the various policies related to it</li> <li>• Sustainable Livelihood Model</li> <li>• Global Cooperation for Climate Change</li> </ul>	2
5. Sustainable Development Policies and Programmes: Rio+20; Goal-Based Development; Financing for Sustainable Development; Principles of Good Governance; National Environmental Policy, CDM.	9	<ul style="list-style-type: none"> <li>• Sustainable Development Policies and Programme of the world and India</li> <li>• Rio +20, Sustainable Development Goals</li> <li>• Financing for Sustainable Development: NGOs, Trusts and various charities</li> <li>• Principles of Good governance</li> <li>• National Environmental Policy</li> <li>• Clean Development Mechanisms</li> </ul>	2

# GARGAON COLLEGE

## TEACHING PLAN

Course: B. A.

Session: Odd semester 2021

**Subject:** GEOGRAPHY

**Name of the Teacher:** DR.RITURAJ NEOG

**Methods to be applied:** Lecture, analytical and activity method, interaction, demonstration and discussion.

**Teaching Materials:** Green Board, Chalk Pencil, Maps, Charts, Atlas, Globe, Computer, Duster, Book, Journal, Newspaper, Magazine, Periodicals, Laptop, Projector

Paper Code/Title	Allotted Unit/ Topic	No. of Class required	Detail of the topics to be taught & class required	No. of tutorials
<b>Climatology (GGRM102T 4)</b>	1. Atmospheric Pressure and Winds – Planetary Winds, Forces affecting Winds, 2. General Circulation, Jet Streams.	9	Difference and interrelationship between temperature, wind, air pressure, Pressure Gradient, Geostrophic wind, Gradient wind, Wind belt of the earth, relation between wind and pressure belts , distribution and types of jet stream.	2
	1. Atmospheric Moisture – Evaporation, Humidity, Condensation 2. Fog and Clouds, Precipitation Types, 3. Stability and Instability; Climatic Regions (Koppen)	9	Concept of humidity, humidity distribution, three states of water, humidity measurement, Absolute, specific and relative humidity, humidity and temperature relationship, types and distribution of fogs, types of clouds and cloud formation, types of rainfall and forms of precipitation , concept of atmospheric stability and instability, climatic region of the world by koppen.	2
	1. Cyclones – Tropical Cyclones, Extra Tropical Cyclones 2. Monsoon - Origin and Mechanism.	6	Concept and formation of tropical cyclone, distribution , structure and origin of tropical cyclone, origin and distribution of temperate cyclone, difference between tropical and temperate cyclone, concept and mechanism of monsoon in Asia, Origin and development of Indian monsoon	2

<b>Geomorphic techniques GGRM 101P2</b>	Slope analysis by Wentworth and Smith method	6	Smith relative relief method and Wentworth average slope Method.	3
<b>Regional Geography of the World GGRM302T6</b>	1. Physiography, climate, soil and vegetation of Asia, Africa, Europe, North America	16	Physiographic division of Asia, Soil region of Asia, Climatic and Vegetation region of Asia, Physiographic division of North America, Soil region of North America, Climatic and Vegetation region of North America, Physiographic division of Europe, Soil region of North Europe, Climatic and Vegetation region of North Europe, Physiographic division of Africa, Soil region of North Africa, Climatic and Vegetation region of Africa	4
	1. Mineral resources and industrial development of the developed, developing and the underdeveloped countries	8	Distribution and Production of Iron, Coal, Petroleum and Natural gas in the world and Major industrial development in developed, developing and the underdeveloped countries	2
<b>Statistical methods in Geography GGRM303T6</b>	<ol style="list-style-type: none"> <li>1. Theoretical distribution: Probability and Normal distribution</li> <li>2. Association and Correlation: Rank Correlation, Product Moment Correlation</li> <li>3. Simple Regression, Residuals from regression</li> </ol>	8	Concept and types of probability and its application, Correlation and its types, Karl Pearson method of Correlation, Spearman rank correlation, regression analysis, residual map form regression and difference between correlation and regression.	2
<b>Regional Planning and Development GGRM501T4</b>	1. Theories and Models for Regional Planning: Growth Pole Model of Perroux; Growth Centre Model	12	Growth Pole Model of Perroux; Growth Centre Model in Indian Context; Theory of Myrdal, Theory of Hirschman, Theory of Rostow and Friedmann; Concept of Village Cluster, application of growth pole and centre in regional development, criticism of growth pole and growth centre, application and criticism of	2

	in Indian Context; Myrdal, Hirschman, Rostow and Friedmann; Village Cluster		Rostow ,Friedmann and Myrdal.	
	1. Changing Concept of Development, Concept of underdevelop ment 2. Efficiency- Equity Debate	4	Concept of development and underdevelopment , changing concept of development, Efficiency-Equity Debate	1
<b>Regional Planning And Development 501P2</b>	Methods of regionalization: a) Simple ranking method b) Mean method c) Z- Score standardization.	3	Socio-economic regionalization by Simple ranking method, Mean method , Z- Score standardization	1

# GARGAON COLLEGE

## TEACHING PLAN

Course: B. A.

**Session: Even semester 2022**

**Subject:** GEOGRAPHY

**Name of the Teacher:** DR.RITUARAJ NEOG

**Methods to be applied:** Lecture, analytical and activity method, interaction and discussion.


**Teaching Materials:** Green Board, Chalk Pencil, Maps, Charts, Atlas, Globe, Computer, Duster, Book, Journal, Newspaper, Magazine, Periodicals, Laptop, and Projector.

<b>Paper Code/Title</b>	<b>Allotted Unit/ Topic</b>	<b>No. of Class required</b>	<b>Detail of the topics to be taught &amp; class required</b>	<b>No. of tutorials</b>
<b>Human Geography GGRM201T6</b>	Settlements: Types of Rural Settlements; Classification of Urban Settlements; Trends and Patterns of World Urbanization	6	Origin and growth of rural and urban settlements, types of settlements, factors for growth of rural settlements, classification of urban settlements, function of urban settlements, trend and pattern of urbanization in the World.	2



<b>Remote sensing and GIS</b> <b>GGRM403T4</b>	Historical Development of remote sensing as a technology- Relevance of remote sensing in Geography. Concept and basics: Energy source, energy and radiation principles Energy interactions in the atmosphere and earth surface features. Remote sensing systems: platforms, sensors and radiations records	20	Historical Development of remote sensing as a technology- Relevance of remote sensing in Geography. Basic concept and principles of Remote sensing, EMR and atmospheric window, different laws associated with radiation, Energy interactions in the atmosphere and earth surface features. Types of platforms in remote sensing, Active sensors and passive sensors, radiation records of sensor.	4
<b>Remote sensing and GIS Practical</b> <b>GGRM403P2</b>	1. Remote Sensing and GIS: Definition and Components, Development , Platforms and Types	5	Remote Sensing and GIS: Definition and Components, Development, Platforms, Types of remote sensing: Active and passive, hyper spectral, thermal and microwave remote sensing	4
	1. Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial Photograph; 2. Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.	6	Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial Photograph; Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface; types of scattering in remote sensing, Satellites (Landsat and IRS) and Sensors: spatial, temporal , spectral resolution in remote sensing.	2
	1. GIS Data Structures: Types	4	Concept and Components of GIS, GIS Data Structures: Types (spatial and Non-spatial), Raster	2

	(spatial and Nonspatial), Raster and Vector Data Structure		and Vector Data Structure, Difference between raster and vector GIS	
	<ol style="list-style-type: none"> <li>1. Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and Geometric Correction), Enhancement (Filtering);</li> <li>2. Classification (Supervised and Unsupervised), Geo-Referencing; Editing and Output; Overlays</li> </ol>	8	Concept of digital image processing, concept and techniques of pre-processing of satellite data in QGIS: band selection, layer staking, subset and mosaic, processing of Landsat and sentinel data in QGIS. Techniques of supervised and unsupervised classification in QGIS/Erda imagine.	2
	<ol style="list-style-type: none"> <li>1. Interpretation and Application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring</li> </ol>	5	Application of Remote Sensing and GIS in Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring	2
<b>GGRM602T6</b>	<ol style="list-style-type: none"> <li>1. Disaster management based project work</li> </ol>	4	Disaster Management based Project work	2

  
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