

**Department of Geography**

**Academic Calender and Academic Plan**

**1st Semester General Course (July 2018 - Dec 2018) CC / GE / GEH**

Name of the paper	Module or Unit No	Topic	Name of the teacher	To be Completed during the month and year	No of PPT classes	Continuous Internal Assessment in which month
Physical Geography GEO-G-CC-1-01-TH	Module: I - Geotectonic	<b>1. Interior of the earth</b> Structure of earth interior Earthquake waves and movement <b>2. Tectonic theories</b> Plate Tectonics theory Seafloor spreading theory Major relief <b>3. Folds and faults</b> Classification of fold and fault Surface expression of fold fault	Bappaditya Koley	3rd week of July 2018	6	August, 2018
Physical Geography GEO-G-CC-1-01-TH	Module: II - Geomorphology	<b>4. Degradation processes</b> Weathering Mass wasting Resultant landforms <b>5. Geomorphic agents</b> Classification and evolution of the fluvial process Classification and evolution of the coastal process Classification and evolution of Aeolian process Classification and evolution of the glacial process <b>6. Models of slope evolution</b> Decline, replacement, and retreat of the slope Systems approach and its significance in geomorphology	Bappaditya Koley	2nd week of August 2018	5	September. 2018

<b>Physical Geography</b> <b>GEO-G-CC-1-01-TH</b>	<b>Module: III - Hydrology</b>	<b>7. Global hydrological cycle</b> Role of the hydrological cycle in physical and biological surface <b>8. Surface Runoff</b> Controlling factors Concept of ecological flow <b>9. Drainage basin as a hydrological unit</b> watershed management	Bappaditya Koley	1st week of Sept., 2018	3	Nov. 2018
<b>Physical Geography</b> <b>GEO-G-CC-1-01-TH</b>	<b>Module: IV- Oceanography</b>	<b>10. Properties of ocean water</b> Physical properties of ocean water Chemical properties of ocean water <b>11. Ocean circulation</b> Ocean circulation Wave formation Tide formation <b>12. Marine resources</b> Classification Sustainable utilization	Bappaditya Koley	4th week of Sept. 2018	5	
<b>GEO-G-CC-1-01-P</b> <b>Physical Geography</b>	<b>Physical Geography LAB</b>	1. Megascopic identification of mineral samples: 2. Megascopic identification of rock samples: 3. Extraction of physiographic information from Survey of India topographical maps of plateau region (RF - 1:50000) 4. Extraction of drainage information from Survey of India topographical maps of plateau region: Extraction and interpretation of channel features and drainage patterns, Construction of channel profiles.	Bappaditya Koley	2nd week August to 1st week November, 2018	2	

<b>Course Outcome</b>	<p>From this entire semester students would learn</p> <ol style="list-style-type: none"> <li>1) Earth interior with their composition, how earthquake waves move in the earth interior and its significance, plate tectonic theory and associated relief features, formation of seafloor and its spreading process and how it formed different landforms beneath the ocean surface, how different continents were formed with special reference to continental drift theory,</li> <li>2) Formation of major relief features due to folds and faults</li> <li>3) Understand the process of weathering and its expression on the earth's surface, different types of degradational landforms, their origin, characteristics and shapes. Specification of the erosion and accretion features due to fluvial, coastal, aeolian and glacial processes, importance of slope morphology from different aspects</li> <li>4) Learn the global hydrological cycle with its significance and sustainable conservation</li> <li>5) Learn about the details of oceanography with salinity, current formation, tides and waves and their relation to temperature distribution worldwide, marine resources and their significance in human life</li> <li>6) In practical they would learn about identification of different types of minerals with their specific characteristics, identification of different types of minerals with their specific characteristics</li> <li>7) Construction and interpretation of relief profiles, interpretation of relative relief maps and extraction of drainage features, drainage patterns, information and interpretation.</li> </ol>
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**2nd Semester General Course (Jan 2019 - Jun 2019) CC / GE / GEH**

Name of the paper	Module or Unit No	Topic	Name of the teacher	To be Completed during the month and year	No of PPT classes	Continuous Internal Assessment in which month
<b>Environmental Geography GEO-G-CC-2-02-TH</b>	<b>Module: I - Climatology</b>	<p><b>1. Insolation and Heat Budget</b> Horizontal and vertical distribution of atmospheric temperature Horizontal and vertical distribution of atmospheric pressure</p> <p><b>2. Planetary wind systems</b> Indian Monsoons: Mechanisms and controls</p> <p><b>3. Atmospheric disturbances</b> Tropical and temperate cyclones Thunderstorms</p> <p><b>4. Overview of global climatic change</b> Greenhouse effect Ozone depletion</p> <p><b>5. Scheme of world climatic classification by Köppen</b> Different types of climate</p>	Anindita Nath and Bappaditya Koley	2nd week of February, 2019	6	March, 2019

<p><b>Environmental Geography</b> GEO-G-CC-2-02-TH</p>	<p><b>Module: II - Soil Geography</b></p>	<p><b>6. Soil Geography</b> Factors of soil formation <b>7. Soil profile development under different climatic conditions</b> Laterite soil Podsol soil Chernozem soil <b>8. Physical and chemical properties of soils</b> Texture, structure, pH, salinity NPK status <b>9. USDA classification of soils</b> Soil erosion and its management</p>	<p>Anindita Nath and Bappaditya Koley</p>	<p>2nd week of March, 2019</p>	<p>4</p>	<p>April, 2019</p>
<p><b>Environmental Geography</b> GEO-G-CC-2-02-TH</p>	<p><b>Module: III - Biogeography</b></p>	<p><b>10. Ecosystem and Biomes</b> Distribution and characteristics of tropical rainforest Distribution and characteristics of Savannah, and hot desert biomes <b>11. Plant ecology</b> Key concept: Plant types, occurrence and ecological adaptations Halophytes, xerophytes, hydrophytes, and mesophytes <b>12. Biodiversity</b> Types, threats and management with special reference to India</p>	<p>Anindita Nath and Bappaditya Koley</p>	<p>3rd week of April, 2019</p>	<p>4</p>	<p>May, 2019</p>
<p><b>GEO-G-CC-2-02-P Environmental Geography</b></p>	<p><b>Environmental Geography Practical</b></p>	<p>1. Interpretation of daily weather map of India (any one): Pre-Monsoon or Monsoon or Post-Monsoon 2. Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal) 3. Determination of soil type by ternary diagram textural plotting 4. Preparation of peoples' biodiversity register</p>	<p>Anindita Nath and Bappaditya Koley</p>	<p>2nd week January to 4th 1st week of May</p>	<p>4</p>	

<b>Course Outcome</b>	<p>1) In this particular semester is based on climate and environmental study so students would learn and understand the climatology of according to Indian climate, temperature and pressure are distributed in different way in atmosphere</p> <p>2) In which process earth gets the heat from sun in a different way, understand the mechanism of monsoon special reference to India</p> <p>3) Different type of wind system which controls the earth system, mechanism of different types of cyclones and vulnerabilities on environment, the global climate change and its impact on environment, green house effect on environment and awareness depletion of ozone</p> <p>4) Soil formation method, learn about the soil properties and structure of soil, causes of soil erosion and how to protect the soil from erosion</p> <p>5) Study about ecosystem, understand and importance of biomes, different types of biome region and their distribution with special characteristics</p> <p>6) Learn the concept of biodiversity, different types of biodiversity region reference to India</p> <p>7) In practical they can prepare the weather map of India and draw the weather map of different climatic condition.</p> <p>8) Would learn the calculation and construction of Hythergraph, Climograph and wind rose, prepare soil texture ternary diagram</p> <p>9) Learn how to prepare a biodiversity register from field survey of any region.</p>
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**3rd Semester General Course (July 2019 - Dec 2019) CC / GE / GEH**

Name of the paper	Module or Unit No	Topic	Name of the teacher	To be Completed during the month and year	No of PPT classes	Continuous Internal Assessment in which month
<b>Human Geography GEO-G-CC-3-03-TH</b>	<b>Module: I - Economic Geography</b>	<p><b>1. Sectors of the economy</b> Primary activities Secondary activities Tertiary and Quaternary activities Factors affecting location of economic activities</p> <p><b>2. Location of economic activities</b> Theories of von-Thünen Theories of Lösch Theories of Weber</p> <p><b>3. Location of industries with special reference to India</b> Cotton Iron Steel</p> <p><b>4. Globalization and integration of world economies</b></p>	Anindita Nath and Bappaditya Koley	2nd week of August 2019	4	September, 2019

<b>Human Geography</b> <b>GEO-G-CC-3-03-TH</b>	<b>Module: II – Social Geography</b>	<b>5. Human Society:</b> Structure, functions, social systems. Population and migration: overview, causes and effects <b>6. Types and characteristics of social organizations</b> Primitive, hunting–gathering, agrarian, Industrial <b>7. Race, Language and Religion</b> Origin, characteristics and spatial variations <b>8. Social Issues</b> Diversity, conflict and transformation	Anindita Nath and Bappaditya Koley	2nd week of September, 2019	3	October, 2019
<b>Human Geography</b> <b>GEO-G-CC-3-03-TH</b>	<b>Module: III – Cultural Geography</b>	<b>9. Carl Sauer</b> Cultural landscape and its elements <b>10. Rural and urban settlements</b> Differentiation in cultural landscapes <b>11. Cultural regions and cultural realms</b> <b>12. Diffusion of culture and innovations</b>	Anindita Nath and Bappaditya Koley	1st week of October, 2019	3	November, 2019
<b>Human Geography</b> <b>GEO-G-CC-3-03-P</b>	<b>Practical Human Geography</b>	1. State-wise variation in occupational structure by proportional divided circles. 2. Time series analysis of industrial production using any two manufactured goods from India. 3. Measuring arithmetic growth rate of population comparing two datasets. 4. Nearest neighbour analysis: Rural example from Survey of India 1:50000 topographical maps.	Anindita Nath and Bappaditya Koley	3rd week of July to 1st week of November	3	
<b>Course Outcome</b>	This semester is totally based on economic, social activities so students would learn 1) About different economic activities and their role in globalization system, different theories according to economic activities, different Indian industries and their prospect and problem, 2) Structure, functions, and social systems of human society and what are the population density, population growth, Man-Land ratio and different types of migration, its causes and effects 3) Explain some important elements of culture, including beliefs, values, norms, and language, Man – Environment, and nature-society interactions as well as impact on Man on Environment. 4) In practical syllabus they would prepare proportional division circles to the different components of occupational Structure 5) Draw and apply the concept of stationarity to the analysis of time series data in various contexts, calculate and draw of growth rate of population comparing two different years datasets 6) Measures nearest neighbor analysis examines the distances between each point and the closest point to it, and then compares these to expected values for a random sample of points from a CSR (complete spatial randomness) pattern.					
<b>3rd Semester General Course (July 2019 - Dec 2019) SEC</b>						

Name of the paper	Module or Unit No	Topic	Name of the teacher	To be Completed during the month and year	No of PPT classes	Continuous Internal Assessment in which month
GEO-G-SEC-A-3-01-TH Coastal Management	Skill Enhancement Course	1. Components of a coastal zone. Coastal morph dynamic variables and their role in evolution of coastal forms	Anindita Nath	1st week of Aug. 2019	2	November, 2019
GEO-G-SEC-A-3-01-TH Coastal Management	Skill Enhancement Course	2. Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism	Bappaditya Koley	3rd week of Aug, 2019	2	November, 2019
GEO-G-SEC-A-3-01-TH Coastal Management	Skill Enhancement Course	3. Coastal hazards and their management using structural and non-structural measures: Erosion, flood, sand encroachment, dune degeneration, estuarine sedimentation and pollution	Anindita Nath	2nd week of Sept, 2019	2	November, 2019
GEO-G-SEC-A-3-01-TH Coastal Management	Skill Enhancement Course	4. Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India	Bappaditya Koley	4th week of Sept, 2019	2	November, 2019

<b>Course Outcome</b>	<p>From this course students would learn</p> <ol style="list-style-type: none"> <li>1) The components of coastal zone, understand the coastal morphology system and the evolution of landforms in coastal zone</li> <li>2) The continental shelf slope and deep sea features and their identification</li> <li>3) Students would learn, informed about the impacts mining and oil exploration from coastal zone and suggest a proper management to protect the coastal environment</li> <li>4) Understand the importance of coastal zone management as tourism, salt manufacturing and land reclamation, inform make aware about coastal hazard and vulnerability</li> <li>5) Suggestion of hazard management in different way like structural method and environment eco friendly method, different type of coastal hazard with their impacts</li> <li>6) Coastal regulation zone notification for protect the coastal zone.</li> </ol>
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**4th Semester General Course (Jan 2020 - Jun 2020) CC / GE / GEH**

Name of the paper	Module or Unit No	Topic	Name of the teacher	To be Completed during the month and year	No of PPT classes	Continuous Internal Assesment in which month
GEO-G-CC-4-04-TH Cartography	Module: I - Scale and Projections	<p><b>1. Maps</b> Classification and types Scales: Types, significance, and applications</p> <p><b>2. Coordinate systems</b> Polar and rectangular coordinate system Bearing Magnetic and true, whole-circle and reduced</p> <p><b>3. Map projections</b> Classification, properties and uses of projection. Concept and significance of UTM projection</p>	Anindita Nath	4th week of Feb, 2010	4	



GEO-G-CC-4-04-TH Cartography	Module: II - Topographic and Thematic Maps	<p><b>4. Survey of India topographical maps</b> Reference scheme of old and open series. Information on the margin of maps</p> <p><b>5. Representation of data by dots and proportional circles</b></p> <p><b>6. Representation of data</b> Isopleths Choropleth</p> <p><b>7. Thematic maps in India</b> Principal national agencies producing thematic maps in India GSI, NATMO, NBSSLUP, NHO, and NRSC. Acquaintance with Bhuvan platform</p>	Bappaditya Koley	will be 1st week of May, 2020	5	
GEO-G-CC-4-04-TH Cartography	Module: III - Remote Sensing and Geographical Information System	<p><b>8. Basics of Remote Sensing</b> Types of satellites, sensors, bands, and resolutions with special reference to the ISRO missions</p> <p><b>9. Principles of preparing standard FCCs and classified raster images</b></p> <p><b>10. Principles of Geographical Information System</b> <b>Concepts of vector types</b> attribute tables buffers and overlay analysis</p>	Anindita Nath and Bappaditya Koley	1st week of March, 2020	5	
GEO-G-CC-4-04-TH Cartography	Module: IV - Surveying	<p><b>11. surveying and survey equipment</b> Basic concepts of surveying and survey equipment Prismatic compass</p> <p><b>12 surveying and survey equipment</b> Basic concepts of surveying and survey equipment Dumpy level</p>	Bappaditya Koley	will be 4th week of April, 2020	4	
Cartography	Cartography Practical	<p>1. Graphical construction of scales: Plain and comparative</p> <p>2. Construction of projections: Simple Conic with one standard parallel, Cylindrical Equal Area, and Polar Zenithal Stereographic</p> <p>3. Construction of thematic maps: Proportional squares, proportional circles, Choropleths, and isopleths</p> <p>4. Preparation of annotated thematic overlays from satellite standard FCCs of 1:50000</p>	Anindita Nath and Bappaditya Koley	4th week of April, 2020	2	

<b>Course Outcome</b>	<p>Students would learn</p> <ol style="list-style-type: none"> <li>1) About maps with classification and types of map, Scale and its application on field work,</li> <li>2) About survey method and know the technique of surveying with instrument</li> <li>3) Study and application of projection, different types of projection and their importance for earth coordination, the significance of UTM projection</li> <li>4) About the different types of topographical map, the marginal topographical maps</li> <li>5) About the importance of representative data, function of pie and dot diagram reference to application</li> <li>6) Significance of satellite imageries, understand the resolution of satellite image and its importance to draw false color composite and feature identification</li> <li>7) What is survey and its importance and applications in field work.</li> <li>8) Students would learn about drawing of scale and importance in real field, projection and their significance in earth system and choropleth diagram for different aspect in practical.</li> </ol>
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**4th Semester General Course (Jan 2020 - Jun 2020) SEC**

Name of the paper	Module or Unit No	Topic	Name of the teacher	To be Completed during the month and year	No of PPT classes	Continuous Internal Assessment in which month
GEO-G-SEC-B-4-04-th Sustainable development	Skill Enhancement Course	1. Sustainable development: Concept, Historical background, components, limitations	Puja Ghosh	3rd week of Feb, 2020		
GEO-G-SEC-B-4-04-th Sustainable development	Skill Enhancement Course	2. Challenges of sustainable development: Determinants, linkage among sustainable development, environment and poverty	Puja Ghosh	4th week of April, 2020		

<b>GEO-G-SEC-B-4-04-th Sustainable development</b>	<b>Skill Enhancement Course</b>	3. Global environmental issues: Population, income and urbanization, health care, forest and water resources	Anindita Nath	1st week of March, 2020	3	
<b>GEO-G-SEC-B-4-04-th Sustainable development</b>	<b>Skill Enhancement Course</b>	4. Global goals for sustainable development: Domain, conflict, crisis and compromise	Puja Ghosh	1st week of March, 2020		
<b>Course Outcome</b>	<p>Students would learn</p> <ol style="list-style-type: none"> <li>1) To aware about the basic knowledge of sustainability,</li> <li>2) Study the historical background of sustainability,</li> <li>3) understand the component and the limitation of sustainability,</li> <li>4) the basic problem of sustainability and how it is create problem for sustainable development,</li> <li>5) Explain the problem for poverty to not maintain the sustainability,</li> <li>6) Explain the global environmental issues such as population income urbanization and their significance,</li> <li>7) Explain about the global sustainability, study about the conflict of sustainability with different reasons,</li> <li>8) Explain the crisis of sustainability according to global sustainable development</li> </ol>					