

Curriculum delivery and syllabus distribution**MA/MSc in Geography**

| Semester | Session | Paper | Unit | Teacher | Methodology |
|-----------------|----------------|--------------|---|-----------------------|---------------------|
| I | 2021-22 | GGY1016 | 1. Defining the field of Geography; Planet earth as the home of man. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Place of Geography in the classification of knowledge; relation of geography with natural and social sciences; multi-disciplinary nature of Geography. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 3. Geography as a spatial science; Spatial Concepts in Geography: Concept of space and place; Geographic space (Absolute Space and Relative Space); Spatial Process and Pattern; Spatial Organization; Spatial Relationship; Spatial Interaction; Spatial Integration; Spatial Diffusion; Spatial Modeling; Space-Time Dimension in Geography | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 4. Basic Branches and Approaches in Geography: Physical and Human; Systematic and Regional; Ideographic and Nomothetic. | Dr Dibyajyoti Saikia | Lecture |
| | | | 5. Place/Region/Territory and scale factor (macro, meso, micro and space content) | Dr Dibyajyoti Saikia | Lecture |
| | | | 6. Geography: Pure and Applied; Society-Environment Interface and Applied | Dr Nilutpal Kalita | Lecture |

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| | | | Geography | | |
| | | | 7. Scientific Methods in Geography: Routes to scientific Explanation: Induction and Deduction; Key elements in scientific practice. | Dr Nilutpal Kalita | Lecture, Group discussion |
| | | | 8. Modes of explanations in Geography: Cognitive explanation, Morphometric explanation, Cause and effect explanation, temporal modes of explanation, Functional explanation, System analysis. | Mr. Manash Jyoti Bhuyan | Lecture |
| | | | 9. Hagget's Integrated Approaches in Geography: Spatial Analysis, Ecological Analysis and Regional Complex Analysis. | Dr Smarajit Ojah | Lecture, Assignment |
| | | | 10. Pattern-Process Model for geographic enquiry. | Ms. Ellora Hazarika | Lecture |
| I | 2021-22 | GGY1026 | 1. History of development of geomorphic ideas; recent trends in Geomorphology. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Theoretical bases of Geomorphology: Fundamental concepts in geomorphology: uniformitarianism and catastrophism; system concepts in geomorphology; steady state; and dynamic equilibrium. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 3. Concepts and | Mr. | Lecture |

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| | | | techniques in applied geomorphology: Fluvial geomorphology, Palaeo-geomorphology, Environmental geomorphology. | Manash Jyoti Bhuyan | |
| | | | 4. Threshold concepts and applications in geomorphology. | Dr Nilutpal Kalita | PowerPoint |
| | | | 5. Quantitative methods and techniques in geomorphology. | Mr. Manash Jyoti Bhuyan | PowerPoint |
| | | | 6. Geomorphic processes: endogenetic and exogenetic; Glacial, Fluvial and Aeolian processes. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 7. Relationship of climate, vegetation and soil with geomorphic processes | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 8. Morphogenetic regions: concept and genesis, differential intensity and rate of operation of geomorphic processes in various morphometric regions | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 9. Development of slopes: slope forming processes and slope forms. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 10. Methods and techniques of geomorphic process study. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| I | 2021-22 | GGY1036 | 1. Defining the field of Climatology; Importance of Climatology in geographical studies. | Dr Dibyajyoti Saikia | Lecture |
| | | | 2. Climate and Weather; Elements of Weather; | Dr Dibyajyoti | Lecture |

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| | | | factors influencing climate. | Saikia | |
| | | | 3. Insolation; atmospheric temperature; horizontal and vertical distribution of temperature | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 4. Atmospheric Pressure and Global Wind System: Vertical pressure gradient and horizontal pressure system; Surface winds, stratospheric winds, seasonal and local winds. | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 5. Air masses and Fronts: Characteristics, Origin and modification of air masses, stability and instability and their influence on weather and climate | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint, Assignment |
| | | | 6. Climatic disturbances: cyclones, anticyclones, cloud bursts, drought. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 7. Classification of World Climate: Schemes of Koppen and Thornthwaite | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 8. Monsoons: Mechanism of development, Distribution of monsoons, Trajectories and Irregularities, Effects of El-Nino, Walker oscillation, etc. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 9. Techniques of weather forecasting: conventional and modern. | Dr Nazneen Akhtar | Lecture |
| | | | 10. Global warming and climate change and | Ellora Hazarika | Lecture |

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| | | | associated impacts and challenges. | | |
| | | | 11. Defining the field of Biogeography; Its significance, development and approaches | Dr Dibyajyoti Saikia | Lecture |
| | | | 12. Bio-energy cycles and food-chain | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 13. Soil characteristics and their significance | Dr Nazneen Akhtar | Lecture, assignment |
| | | | 14. Habitat, Environment and Ecosystem; Plant-Animal Association in varying habitats and environments | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 15. Concept of Bio-diversity; Conservation of forest and wild life | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 16. National forest and environment policies | Dr Nilutpal Kalita | Lecture |
| I | 2021-22 | GGY1046 | 1. Field of Economic Geography: Meaning, significance and theoretical development | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Approaches to Economic Geography: Theoretical, Institutional and Problem solving | Ms. Ellora Hazarika | Lecture |
| | | | 3. Concepts and Models in Economic Geography: Von Thunen's theory of geographic rent, Spatial Demand Cone, Weberian industrial location model, Suicclair's model, Raw Strong's model, Growth Pole model | Mr. Manash Jyoti Bhuyan, Dr Nilutpal Kalita, Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 4. Technology and Economic Development: | Dr Dibyajyoti Saikia | Lecture |

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| | | | Relation between technology and development, regional disparities in technology applications, levels of economic development-global perspective | | |
| | | | 5. Economic Geography of Primary activity: Geography of pastoral farming, Geography of agriculture, place of agriculture in global economy, critical study of large-scale & small-scale agriculture, Regional pattern of agriculture in the world with special reference to USA, Israel and China | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 6. Modernization of Agriculture: Intensification, Crop diversification, Mixed farming. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 7. Economic geography of power resources: Global pattern of energy production; Conventional sources of energy - water, coal and petroleum; and non-conventional sources of energy - solar, wind and nuclear. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 8. Economic Geography of manufacturing: Patterns and problems of manufacturing (mainly iron and steel and textiles) in the world with special reference to USA, | Dr Dibyajyoti Saikia | Lecture, PowerPoint |

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| | | | UK and Japan. | | |
| | | | 9. Economic geography of International trade in selected commodities: Food grain (Rice and Wheat), Tea, Iron and Steel, Petroleum. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| I | 2021-22 | GGY1054 | 1. Morphometric Analysis: (i) Profile drawing (ii) Relative relief maps based on Smith's method (iii) Slope maps using Wentworth's method | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 2. Analysis of Basin Morphology: (i) Drainage ordering, calculation of bifurcation ratio, length ratio, basin circularity ratio, Analysis of laws of stream number, stream length and drainage basin area (ii) Preparation of drainage density, drainage frequency and drainage texture maps | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 3. Area-Height Relationship: (i) Hypsometric curve and hypsometric integral (ii) Altimetric frequency curve and histogram | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 4. Climograph, Hythergraph and Ergograph | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 5. Rainfall dispersion graph, rainfall variability and equipluve maps | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 6. Water deficiency and surplus graphs | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 7. Spatial variation in land use and cropping pattern of North-East India using pie graph | Dr Smarajit Ojah | |

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| | | | 8. Trend analysis of production of different commodities with the help of band graph and using moving average and least squares methods. | Dr Dibyajyoti Saikia | |
| | | | 9. Analysis of landholding and income pattern | Mr. Nizam Uddin Ahmed | |
| | | | 10. Choropleth mapping of cropping intensity of N.E. India | Dr Nazneen Akhtar | |
| | | | 11. Determination of the levels of economic development using simple composite index | Dr Nazneen Akhtar | |
| | | | 12. Spatial analysis of crop concentration in N.E. India and Assam | Dr Nilutpal Kalita | |
| II | 2021-22 | GGY2066 | 1. Geography through the ages; general character of geographic knowledge during the ancient and mediaeval period; impact of explorations and discoveries and European renaissance on the emergence of modern geography. | Dr Dibyajyoti Saikia | Lecture |
| | | | 2. Foundations of modern geography: contribution of German (Humboldt, Ritter, Ratzel), French (Paul Vidal de la Blache), British and American geographers. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 3. Evolution of geographic thought (Determinism, Possibilism, Human Ecology, Morphology of | Dr Nazneen Akhtar | Lecture |

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| | | | Landscape, Areal differentiation) and their impact in the development of the field. | | |
| | | | 4. Emergence of New Geography: quantitative revolution, school of locational analysis, reactions to nomothetic geography; behavioural, radical and humanistic approaches, existentialism and phenomenology, welfare approach, modernism. | Dr Nazneen Akhtar | Lecture |
| | | | 5. Postmodern geography: socio-spatial dialectic and gender perspective, new Environmentalism, applied geography. | Mr. Manash Jyoti Bhuyan | Lecture |
| | | | 6. Models in Geography and their applications | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 7. Present trend in Indian Geography | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 8. Postmodern perspective in Indian Society | Dr Nilutpal Kalita | Lecture |
| II | 2021-22 | GGY2076 | 1. Meaning of environment; Components of environment and their interrelationship and functioning; Natural and Human environment. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Defining Environmental Geography: emergence of environmental | Mr. Nizam Uddin Ahmed | Lecture |

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| | | | geography as a branch of geography; scope and significance of environmental geography. | | |
| | | | 3. Man-Environment Relationship: historical perspectives on man's interaction with environment; population growth and environment; approaches to the study of man environment relationship. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 4. Ecosystem: concept and types of ecosystem; functioning of ecosystem; Energy flow in ecosystem; bio-geochemical cycles; biosphere as an ecosystem. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 5. Man and Atmosphere: man as a factor of climate change; industrialization-urbanization and climate; greenhouse effect and global warming. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 6. Development processes: Nature and trend of development-global and national perspective | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 7. Environment and Development: concept of environment and development; sustainable development. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 8. Global | Dr Nilutpal | Lecture, |

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| | | | Environmental Problems: types and extent of environmental problems, area-specific major environmental issues and problems. | Kalita | PowerPoint |
| | | | 9. Environmental Pollution: factors of environmental pollution; types of pollution; major areas of environmental pollution; effects of environmental pollution. | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 10. Environmental Hazards and Disaster: meaning and types; tectonic disasters; climatic hazards; flood hazards with special reference to floods of Brahmaputra and Barak valleys, Assam. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 11. Environmental Management: concept of environmental management; environmental Impact assessment; approaches of environmental management; global and regional Environmental programs and policies. | Dr Smarajit Ojah | Lecture |
| II | 2021-22 | GGY2086 | 1. Defining the field of Population Geography; its emergence, trend of development and Significance. | Dr Dibyajyoti Saikia | Lecture |
| | | | 2. Population theories: Malthus theory of | Mr. Nizam Uddin | Lecture, PowerPoint |

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| | | | population growth; Demographic transition theory. | Ahmed | |
| | | | 3. Population Data: Nature, Sources and associated problems. | Mr. Nizam Uddin Ahmed | Lecture, Group Discussion |
| | | | 4. Components of population growth: fertility, mortality and migration; trend of population growth in the world and its different parts; patterns, processes and consequences of migration. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 5. Demographic and socio-economic characteristics of population and associated issues: Global perspective and comparison between developed and developing countries | Ellora Hazarika | Lecture, PowerPoint |
| | | | 6. Population- resource relationship, conceptual bases of under population, optimum population, over population and population explosion, population- resource regions. | Mr. Manash Jyoti Bhuyan | Lecture |
| | | | 7. Defining the field of settlement of geography; its development trend, significance and approaches | Dr Dibyajyoti Saikia | Lecture |
| | | | 8. Origin and growth of rural and urban settlements; Characteristics of rural and urban settlements; Spatial patterns of settlements. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 9. Morphology of rural | Dr Nilutpal | Lecture, |

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| | | | and urban settlements; theories related to internal structure of urban settlements; distance-decay rule in urban context | Kalita | PowerPoint |
| | | | 10. Rural-urban relationship: dichotomy and continuum; settlement hierarchy with reference to central place theory; concept of centrality; primate city concept; rank-size rule; concept of urban fringe. | Dr Smarajit Ojah | Lecture, PowerPoint |
| III | 2021-22 | GGY2096 | 1. India as a geographical entity; unity in diversity; locational significance. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Physical background of regional development: relief, drainage, climate, soil and vegetation. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 3. Mineral and power resources and development: iron ore, coal, petroleum and water power potential, and development scenario. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 4. Population and development issues: population growth and its socio-economic implications, literacy, urbanization, occupation and social structure and development inequalities. | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 5. Regional disparities in economic | Dr Dibyajyoti | Lecture, PowerPoint |

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| | | | development: agriculture, industry and transport and Communication. | Saikia | |
| | | | 6. India's geo-economic position in Asia and the world; Resource potentials; its economic development policies and international relations. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 7. North-East India: location and strategic significance; the land of seven sisters. | Mr. Manash Jyoti Bhuyan | Lecture |
| | | | 8. Physical characteristics and their relation to development: relief, drainage, climate, soil and vegetation. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 9. Natural resources, their utilization and development: forests, coal, petroleum, natural gas and water, and development scenario. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 10. Population and development: population growth and distribution, Migration, population characteristics and their socio-economic implications. | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 11. Agriculture and development: problems of agriculture; agricultural modernization (problems and prospects) and economic development. | Dr Smarajit Ojah | Lecture, group discussion |
| | | | 12. Spatial pattern of socio-economic development (state | Dr Nazneen Akhtar | Lecture, PowerPoint, assignment |

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| | | | level) and strategies for future development. | | |
| II | 2021-22 | GGY2104 | 1. Population concentration and density pattern in North East India and Assam | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 2. Trend of population growth (Exponential and Non-Linear methods) and population projection of India, N.E. India/Assam/India | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 3. Determination of spatial mean center of population, spatial mean center of urban population and settlements of selected areas. | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 4. Distribution pattern of services/economic activities/settlements using Nearest Neighbour Analysis Statistic. | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 5. Determination of settlement hierarchy using centrality index. | Dr Nilutpal Kalita | Practical and Laboratory work |
| | | | 6. Population Density Gradient Analysis | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 7. Mapping volume and direction of population migration in North East India | Dr Nazneen Akhtar | Practical and Laboratory work |
| | | | 8. Analysis of trend of population growth and food production in India. | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 9. Spatial pattern of population density in Assam (district level) and dispersion of population density in India (state level). | Ellora Hazarika | Practical and Laboratory work |
| | | | 10. Mapping of | Mr. | Practical and |

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| | | | population distribution of North-East India and analysis of its relationship with relief. | Manash Jyoti Bhuyan | Laboratory work |
| | | | 11. Analysis of connectivity and centrality of transport networks in North East India. | Dr Smarajit Ojah | Practical and Laboratory work |
| | | | 12. Determination of levels of infrastructural development in North East India using simple composite index. | Dr Nazneen Akhtar | Practical and Laboratory work |
| | | | 13. Flow pattern of selected commodities of India and N.E. India using standard carto-statistical techniques. | Dr Nazneen Akhtar | Practical and Laboratory work |
| III | 2021-22 | GGY3116 | 1. Methodological developments in geography: quantitative and qualitative; significance of quantification in geographical analysis; limitations of quantitative techniques. | Dr Dibyajyoti Saikia | |
| | | | 2. Geographic data matrix; nature and types of geographic data, levels of measurement, data source and acquisition techniques. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 3. Sampling and its need in geographical data collection; Sampling techniques (Probability and Non-Probability sampling); | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |

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| | | | application of probability in sample selection and sample data analysis. | | |
| | | | 4. Application of inferential statistics in hypothesis testing; parametric and non-parametric tests, selection of significance level. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 5. Conceptual basis of quantitative techniques in spatial distribution and concentration, spatial relationship, spatial interaction, spatial diffusion and regional patterns analysis. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 6. Significance of cartography in geography; traditional and digital cartography. | Dr Smarajit Ojah | Lecture |
| | | | 7. Principles of surveying; field survey techniques (triangulation, traversing and levelling) and mapping. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 8. Principles of mapping; base map preparation; concept of point, line and area; concept of generalization; scale factor; choice of map projection (Zenithal, Conical, Cylindrical and Conventional); map design and layout. | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 9. Thematic mapping: meaning and type; principles of thematic mapping; basic ideas of isopleth, | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |

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| | | | choropleth and choro-chromatic mapping; concept of three-dimensional representation of geographical data. | | |
| | | | 10. Techniques of physical and socio-economic data representation and mapping. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| III | 2021-22 | GGY3123 | 1. Basic Concepts and Principles of Remote Sensing | Dr Nilutpal Kalita | Lecture |
| | | | 2. Significance of remote sensing in geography as spatial data acquisition tool | Dr Smarajit Ojah | Lecture |
| | | | 3. Airborne and Satellite Remote Sensing: Data products and characteristics | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 4. Remote Sensing Data Interpretation: Visual and digital techniques; digital image processing | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 5. Application of Remote Sensing in geomorphology, land use/ land cover, forestry, rural and urban landscape study | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 6. Field of GIS: Basic concepts, principles, components and functions | Dr Smarajit Ojah | Lecture |
| | | | 7. Data type and structure of GIS; Raster and Vector data structure | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 8. Spatial analysis techniques and thematic representation of data in GIS | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 9. GIS Software; Licensed and Open | Dr Nilutpal Kalita | Lecture, PowerPoint |

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| | | | 10. Application areas of GIS in geographical study | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 11. Introduction to GPS technology and its working principles | Dr Nilutpal Kalita | Lecture |
| | | | 12. GPS elements and types of signals and receivers and data acquisition techniques; Accuracy of GPS data; Concept and principle of DGPS | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 13. Application areas of GPS in geographical study | Dr Nilutpal Kalita | Lecture, PowerPoint |
| III | 2021-22 | GGY3133 | 1. Meaning of research and geographic research; types of research; Introduction to research methodology in geography | Dr Dibyajyoti Saikia | Lecture |
| | | | 2. Formulation of a research problem | Mr. Manash Jyoti Bhuyan | Lecture |
| | | | 3. Research design: statement of the problem, objectives and hypothesis/ research questions, methodology, significance, review of research works and referencing. | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 4. Inductive and deductive approaches in geographic research, concept development, model building and hypothesis testing. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 5. Questionnaire design, data collection, data processing and analysis. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 6. Research write-up | Dr | Lecture |

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| | | | | Nazneen Akhtar | |
| III | 2021-22 | GGY3146 | 1. Defining the field of social geography; development of social geography in Anglo- American countries and India. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Concept of social space, social group, social structure, social differentiation, social diversity, plurality, socio-spatial inequalities, social well-being. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 3. Defining the field of cultural geography; its trend of development and significance. | Dr Dibyajyoti Saikia | Lecture |
| | | | 4. Sauer's Morphology of Landscape School. | | Lecture, PowerPoint |
| | | | 5. Themes and concepts in cultural geography: cultural hearth, cultural area, cultural region, cultural landscape, cultural history, cultural ecology, cultural diffusion and cultural integration. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 6. Patterns of world cultural regions with reference to (a) language, (b) religion and (c) ethnicity. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 7. Defining the field of political geography and its significance | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 8. Historical development of political geography; schools of thought: Landscape school, ecology school and organismic school. | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 9. Approaches to the study of political | Mr. Nizam Uddin | Lecture, PowerPoint |

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| | | | geography: historical, morphological and functional. | Ahmed | |
| | | | 10. Concept in political geography: lebensraum, state and nation, core-periphery and capital, frontier and boundary, buffer zone, rim-land, geopolitics, heartland and its theory and political economy. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 11. International relations; India's relations with neighbours; Act East Policy. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 12. Geopolitical problems in global and Indian context. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| III | 2021-22 | GGY3156 | 1. The field of social geography, Social geography and Sociology, approaches of study, philosophical and methodological development and contemporary trends in Social Geography. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 2. Concepts of social space, social group, social structure, social process, social organization, social plurality and diversity. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 3. Society, culture and social world: evolution of societies, components of culture- material and non-material, social policy and cultural change. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 4. Sociological and social geographic models. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |

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| | | | 5. Conceptual basis of social well-being: social well-being as reflected in the indicators like literacy and education, health care, civic amenities and economic condition. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 6. Social structure and social stratification as reflected in race, tribe, caste, language, dialect and religion. | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 7. Methods in spatial distribution and concentration, spatial relationship and interaction in social geography; Spatial diffusion, social gradient, social disparity, Principal component analysis and factor analysis. | Dr Nazneen Akhtar | Lecture, PowerPoint, Group Discussion |
| III | 2021-22 | GGY3164 | 1. Application of elementary matrix algebra in multivariate data analysis. | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 2. Application of probability distributions (normal, poisson and binomial) in geographical analysis. | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 3. Application of relevant hypothesis testing techniques (parametric and nonparametric) in geographical data analysis; use of z, t, f and χ^2 (Chi- square) statistics. | Dr Nazneen Akhtar | Practical and Laboratory work |
| | | | 4. Simple and multiple correlation and regression analysis; | Dr Dibyajyoti Saikia | Practical and Laboratory work |

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| | | | non-linear relationship (rank-size relationship and distance decay) analysis. | | |
| | | | 5. Spatial interaction, population potential surface, spatial diffusion, shape index and transport network analysis. | Dr Nazneen Akhtar | Practical and Laboratory work |
| | | | 6. Techniques of multivariate analysis in areal classification and regionalisation: (i) Triangular graph and combination analysis (ii) Composite scores - composite z-score and principal component analysis. | Dr Nilutpal Kalita | Practical and Laboratory work |
| | | | 7. Data Grouping Techniques for Choropleth mapping and Accuracy Assessment: Equal step, parameters of normal distribution, nested means, quartiles and equal-area. | Dr Smarajit Ojah | Practical and Laboratory work |
| | | | 8. Traversing and topographic surveying with the help of prismatic compass and theodolite. | Dr Nilutpal Kalita | Practical and Laboratory work |
| | | | 9. Construction of map projections: (i) Zenithal gnomonic (Equatorial case) (ii) Lambert's conical equal- | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |

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| | | | <p>area projection</p> <p>(iii) Gall's cylindrical stereographic projection</p> <p>(iv) Mercator's projection</p> <p>(v) Mollweide's projection</p> | | |
| | | | 10. Map reading and analysis, preparation of base map. | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 11. Representation of physical and socio-economic data using band graph, pie graph, sphere diagram, flow chart, isolines and transect chart. | Dr Smarajit Ojah | Practical and Laboratory work |
| | | | 12. Representation of land and population by topological space diagram (grid cells) for comparative study. | Dr Nilutpal Kalita | Practical and Laboratory work |
| IV | 2021-22 | GGY4176 | 1. Introduction to ecology and the scientific methods: using observation, experiments and models to understand ecological patterns and processes. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 2. Ecology and society: livelihood environment and development, environmental valuation and accounting. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 3. Ideologies of environmentalism, Issues of environment and equity | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 4. Environment of land, water and forest in North east India. | | Lecture, PowerPoint |

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| | | | 5. Traditional Ecological Knowledge and belief system. | Ellora Hazarika | Lecture, PowerPoint |
| | | | 6. Anthropogenic (greenhouse-Kyoto gases) and natural radioactive forcing (Solar cycles-Milankovich cycle) | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 7. Atmospheric circulation, El Niño Southern Oscillation (ENSO), Walker Circulation, Indian Ocean dipole clouds, aerosols. | Dr Nilutpal Kalita | Lecture, PowerPoint, Assignment |
| | | | 8. Evaluation of climate models, climate projection and prediction | Dr Nilutpal Kalita | Lecture, PowerPoint |
| | | | 9. Climate change: Impacts, vulnerabilities, adaptation and mitigations strategies: global, sectorial, regional) | Dr Smarajit Ojah | Lecture, PowerPoint |
| | | | 10. Organization and policies: IPCC, UNCOP, ISA, NAPCC, INCCA | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| IV | 2021-22 | GGY4186 | 1. Location and situation of Bhutan; locational significance in relation to India; geo political history | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 2. Physical Framework: Physiography, climate, vegetation, forest policy and biodiversity | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 3. Socio-Cultural Background: Population, ethno-religious and linguistic composition, literacy and educational | Dr Dibyajyoti Saikia | Lecture, PowerPoint |

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| | | | pattern, urbanization level | | |
| | | | 4. Economic Geography: Resource potential, agriculture, industry, transport system, tourism development, trade relations with India, patterns of economic development | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 5. Location and situation of Bangladesh; locational significance in relation to India; geo-political history | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 6. Physical Framework: Physiography, climate, soil, vegetation and environmental problems | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 7. Socio-Cultural Background: Population, ethno-religious composition, literacy and educational pattern, urbanization level, population problems and policies | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 8. Economic Geography: Resource potential, agriculture, place of consumer goods industry, transport system, tourism development, trade relations with India, problems and prospects of economic development | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 9. Location and situation of Myanmar; locational significance in relation to India; geo- | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |

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| | | | political history | | |
| | | | 10. Physical Framework: Physiography, climate, vegetation, biodiversity and environmental policies | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 11. Socio-Cultural Background: Population, ethno-religious and linguistic composition, literacy and educational pattern, urbanization level | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 12. Economic Geography: Resource potential, agriculture, industry, transport system, nature of tourism development, trade relations with India, problems and prospects of economic development | Dr Nilutpal Kalita | Lecture, PowerPoint |
| IV | 2021-22 | GGY4193 | 1. Fundamentals of Photogrammetry: determination of photo scale, object height, slope between two points and relief displacement | Dr Nilutpal Kalita | Practical and Laboratory Work |
| | | | 2. Interpretation of aerial photographs and preparation of land use map, settlement map and road map | Mr. Manash Jyoti Bhuyan | Practical and Laboratory Work |
| | | | 3. Interpretation of satellite imagery and preparation of land use/ land cover and fluvial- geomorphic maps | Dr Nilutpal Kalita | Practical and Laboratory Work |
| | | | 4. Digitization of different layers of spatial information (Point, line and | Dr Nilutpal Kalita | Practical and Laboratory Work |

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| | | | polygon) and their thematic representation | | |
| | | | 5. Study of changing land use and river course using remote sensing and GIS techniques | Mr. Manash Jyoti Bhuyan | Practical and Laboratory Work |
| | | | 6. GPS data collection (Point, Line and Polygon) and plotting | Dr Smarajit Ojah | Practical and Laboratory Work, Field Work |
| IV | 2021-22 | GGY4206 | 1. Social development and human development: An overview of the world scenario. | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 2. Process of social change: Modernization, urbanization, industrialization and other socio economic and cultural processes. | Dr Nazneen Akhtar | Lecture, PowerPoint |
| | | | 3. Socio-economic inequalities: Problems of poverty, unemployment and hunger, deprivation, injustice and social discrimination. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 4. State of world's education: Literacy and Education as a dominant social characteristic. | Dr Dibyajyoti Saikia | Lecture, PowerPoint |
| | | | 5. Gender perspective in social geography: status and role of women in society, gender discrimination. | Dr Dibyajyoti Saikia | Lecture |
| | | | 6. Development of social geography in India. | Mr. Nizam Uddin Ahmed | Lecture |
| | | | 7. Process, nature and direction of social change in India | Mr. Nizam Uddin Ahmed | Lecture, PowerPoint |
| | | | 8. Social Elements: | Mr. Nizam | Lecture, |

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| | | | caste, class religion and ethnicity with reference to India | Uddin Ahmed | PowerPoint |
| | | | 9. Geographical diversity in social composition, problems of identity consciousness, questions of regionalism and nationalism in contemporary North-East India. | Mr. Manash Jyoti Bhuyan | Lecture, PowerPoint |
| | | | 10. Trend of social geographic research across the world | Dr Nilutpal Kalita | Lecture, PowerPoint |
| IV | 2021-22 | GGY4214 | 1. Mapping of distribution of language and religious groups of the world and India | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 2. Distribution and concentration of Scheduled Tribe population of India and Assam | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 3. Distribution of Major Races of the world | Mr. Nizam Uddin Ahmed | Practical and Laboratory work |
| | | | 4. Patterns of Human development in the World, India and Assam | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 5. Occupational diversity among SC and ST population of India and North East India | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |
| | | | 6. Population potential and population Interaction and spatial diffusion | Dr Nilutpal Kalita | Practical and Laboratory work |
| | | | 7. Ternary diagram representing social composition of population Social well-being as measured by composite Z score and Principal | Mr. Manash Jyoti Bhuyan | Practical and Laboratory work |

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| | | | Component Analysis | | |
| | | | 8. Hypothesis testing using t , f and chi squared test | Dr Nilutpal Kalita | Practical and Laboratory work |
| | | | 9. Sex disparity in literacy by Sopher's disparity Index | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| | | | 10. Social Survey Methods | Dr Nazneen Akhtar | Practical and Laboratory work |
| | | | 11. Determination of social change index and its mapping | Dr Dibyajyoti Saikia | Practical and Laboratory work |
| IV | 2021-22 | GGY4223 | <p>1. Each student will have to prepare a dissertation under the guidance of respective teacher as per specialization following appropriate methodology, data base and literature review.</p> <p>2. The dissertation duly signed by the guide concerned has to be submitted to the department at least one week before the scheduled date of examination.</p> <p>3. The marks distribution of dissertation in the final semester examination is as follows:</p> <p>(i) Total marks: 40</p> <p>(ii) Evaluation of Content: 25 (average between external and internal examiners)</p> <p>(iii) Viva-voce: 15 (exclusively by the external examiner)</p> | | Project Work |