Department of Geography

Programme Specific Outcome (BA/B.Sc. in Geography)

The programme specific outcome of the syllabus prescribed for the major students of Geography is mentioned below:

- PSO1: The programme will enrich and enlighten the students with fundamental geographical understanding to chase higher education in the discipline.
- PSO2: The programme will prepare the students with adequate knowledge applicability and problem solving capacities.
- PSO3: The programme will provide encouragement among students to pursue a career in Geoinformatics in future.
- PSO4: The programme deals with project work and preparation of dissertation which will promote research work and research profession among the students.
- PSO5: The programme will build a sound geographical base in the students which will immensely help them while preparing for any competitive exams.
- PSO6: The programme deals extensively on environment and man-nature relationship. This will create a sense of awareness and social responsibility among the students towards the environment.
  Most importantly, the programme will help students to become better and responsible citizens of the nation.

COURSE OUTCOME

BA in Geography (Honours) syllabus (CBCS)

1st Semester

Paper Name: Geomorphology
Paper Code: GGY - HC – 1016

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to:	**Theory** Unit I: Geomorphology: Nature, ScopeandSignificance	Remember and Understand

• The paper will introduce the students about the physical aspect of the subject Geography. • The students will learn about the different branches of geomorphology. The concepts learned will help students to observe and understand the different landforms critically. • The paper will help the students in exams like NET/SLET/ UPSC and other competitive exams.	Unit II: Structure and characteristics of the earth's crustandinterior		Remember and Understand
	Unit III: Forces of landform development: Endogenetic forces (folding, faulting earthquakes and volcanoes) and exogenetic forces (weathering, erosion and masswasting).		Remember ,Understand and Analysis
	Unit IV: Earth Movements: Continental Drift Theory, Isostasy, Mountain building: views of Holmes and Kober,Platetectonics.		Analysis and Apply
	Unit V: Concept of Cycleof Erosion: Davis and Penck, Landform development under Fluvial, Aeolian and Glacialconditions		Understand, Analysis and Apply
After the completion of this course, the students will be able to: • The students will learn various cartographic techniques for representing different relief profiles. • The students will be able to identify different geomorphological features from toposheets and their representation and interpretation from geographical perspectives. • The paper will help the students to identify	**Practical** Unit I: Study of Topographical Maps: Topographical map content and numbering system, the generalinterpretationoftoposheetsinrespectofphysicalcharacteristics.		Analysis and Apply
	Unit II: Profile Drawing (serial, superimposed,projectedandcomposite		Analysis and Apply
	Unit III: Preparation of Slope Map / Relative Relief Map: Wentworth's method and		Analysis and Apply

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
common rocks and their characteristics.	Smith's method.	
	Unit IV: Delineation of drainage basin and drainage network, construction of cross and long profiles, stream ordering by Horton andStrahler'smethod	Analysis and Apply
	Unit V: Interpretation of Geological map and Construction of cross – section (Two geological maps including one with interruptions) showing different sedimentarybeds.	Analysis and Apply

Paper Name: Cartographic Techniques
Paper Code: GGY-HC-1026

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The students will acquire fundamental knowledge about cartography, map characteristics, map design and map layout. • The paper will be useful for the students in terms of surveying an area and learning the basic principles and techniques associated with surveying. • The students will understand the need of quantification in Geography and learn	**Theory** Unit:1 Cartography – Meaning, Development (Traditional and Modern Cartography) and Importance of Cartography in Geography.	Remember and Understand
	Unit:2 II Shape and size of the earth, coordinate system (latitude and longitude)	Remember and Understand
	Unit III: Maps: Types, scale and content, representation of point, line and area in maps	Remember ,Understand and Analysis
	Unit IV: Map Projections: Concept of Map Projection,	Remember ,Understan

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
important quantitative methods involved in geographic data analysis. •	Classification of Map Projections; Choice ofmapprojection.	d and Analysis
	Unit V: Thematic mapping: Concept and types	Remember ,Understand and Analysis
After the completion of this course, the students will be able to: • This paper will provide the students to undertake survey exercises in a geographical area and apply different cartographic techniques to map the same. • Learning map projections is an integral part of map making and this paper will enable the students to gain insight about various map projection techniques. • The paper deals with representing socio-economic data in the form of maps which will be useful for the students in their project work.	**Practical** Unit I: Construction of graphical scale (linear, diagonal and comparative); conversion of map scale .	Analysis and Apply
	Unit II: Construction of graticules of Zenithal Polar Gnomonic and Stereographic, Simple Conical with one standard parallel, Bonne's conical, Gall's Stereographic Cylindrical along with their properties, uses and limitations.	Analysis and Apply
	Unit III: Preparation of thematic maps (choropleth, isopleth and pie diagram) for representing various physical geographic data.	Analysis and Apply

IIth Semester

Course Name: Human Geography
Paper Code: GGY-HC–2016

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
	Theory	Remember and

After the completion of this course, the students will be able to: • The students will acquire fundamental knowledge about cartography, map characteristics, map design and map layout. • The paper will be useful for the students in terms of surveying an area and learning the basic principles and techniques associated with surveying. • The students will understand the need of quantification in Geography and learn important quantitative methods involved in geographic data analysis. •	Unit:1 Cartography – Meaning, Development (Traditional and Modern Cartography) and Importance of Cartography in Geography.	Understand
	Unit:2 II Shape and sizeoftheearth,coordinatesystem(latitudeandlongitude)	Remember and Understand
	Unit III: Maps: Types, scale and content, representation of point, line and area in maps	Remember ,Understand and Analysis
	Unit IV: Map Projections: Concept of Map Projection, Classification of Map Projections; Choice ofmapprojection.	Remember ,Understand and Analysis
	Unit V: Thematic mapping: Conceptandtypes	Remember ,Understand and Analysis
After the completion of this course, the students will be able to: • This paper will provide the students to undertake survey exercises in a geographical area and apply different cartographic techniques to map the same. • Learning map projections is an integral part of map making and this paper will enable the students to gain insight about various map projection techniques.	**Practical** Unit I: Construction of graphical scale (linear, diagonal and comparative); conversion of map scale .	Analysis and Apply
	Unit II: Construction of graticules of Zenithal Polar Gnomonic and Stereographic, Simple Conical with one standard parallel, Bonne's conical, Gall's Stereographic Cylindrical along with their properties, uses and limitations.	Analysis and Apply

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
• The paper deals with representing socio-economic data in the form of maps which will be useful for the students in their project work.	Unit III: Preparation of thematic maps (choropleth, isopleth and pie diagram) for representing various physical geographic data.	Analysis and Apply
	Unit IV: Delineation of drainage basin and drainage network, construction of cross and long profiles, stream ordering by Horton andStrahler'smethod	Analysis and Apply
	Unit V: Interpretation of Geological map and Construction of cross – section (Two geological maps including one with interruptions) showing different sedimentarybeds.	Analysis and Apply

Course Name: Climatology and Biogeography
Paper Code: GGY-HC–2026

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The paper will be beneficial for the students in developing ideas on climate related aspects of geographical analyses. • The students will be benefitted in preparing for NET/SLET/UPSC and other competitive exams.	**Theory** Climatology Unit I : Meaning of climatology and its significance in geographical studies.	Remember and Understand
	Unit II: Atmospheric Composition and Structure; and their variation with altitude, latitude and season.	Remember and Understand
	Unit III: Insolation and Temperature; Factors and	Remember ,Understan

	Distribution and Heat Budget.	d and Analysis
• The paper will be useful for the students in gaining information on representing and interpretating various climatic phenomena. • The students will gain knowledge about the physical and chemical properties of soil, the processes and factors of their formation and subsequently about their different types. • The paper will enhance the knowledge of the students about their environment, the associated environmental concepts and relevance. • Understanding about the biogeographic regions, their distribution and also about the man-environment relationship will create awareness and sense of responsibility among students towards the environment.	Unit IV: Atmospheric Pressure and Wind system; Planetary Winds, Forces affecting Winds, General Circulation, Jet Streams	Remember ,Understand and Analysis
	Unit V: Atmospheric Moisture – Evaporation, Humidity, Condensation, Fog, Precipitation Types, Stability and Instability.	Remember and Understand
	Unit VI: Climatic classification of Koppen and Trewartha; Monsoon - Origin and Mechanism.	Remember and Understand
	Unit VII: Cyclones and anticyclones; Tropical Cyclones, Extra-Tropical Cyclone.	Remember and Understand
	Biogeography Unit I: Meaning, Scope and Significance of biogeography	Remember ,Understand and Analysis
	Unit II: Ecology and Ecosystem, Structure and functioning of ecosystem	Remember ,Understand and Analysis
	Unit III: Global distribution of major plants and animals.	Remember ,Understand and Analysis
	Unit IV: Biomes and Biodiversity hotspots of the world.	Remember ,Understand and Analysis

		Unit V: Soil as a component of environment, soil formation process and factors, soil composition and horizon, Soil types and their distribution in India	Remember ,Understand and Analysis
After the completion of this course, the students will be able to: • Study Weather map of different places of India • Study about rainfall variability of different places • Annual rainfall graph of different places • The students will become skilled at preparing, reading and analysing different weather map. Biogeography • The students will gain a comprehensive understanding about the composition and distribution of soil and vegetation at regional and national context. • The paper will develop the skill of the students in cartographically representing different data.	**Practical** Climatology Unit I: Interpretation of Indian Weather map for Monsoon and non–monsoon seasons/months based on various weather symbols depicted on maps.	Analysis and Apply
	Unit II: Preparation of weather reports of Indian subcontinent by analyzing the weather satellite images of at least three consecutive days (e.g. INSAT 3D, NOAAsatellite).	Analysis and Apply
	Unit III: Preparation of rainfall-temperature graphs; hythergraph, climograph and ergograph taking data fromIndia/N.E.India/Assam	Analysis and Apply
	Unit IV: Calculation of average annual rainfall and variability of annual rainfall and preparation ofrainfalldistributionandvariabilitymaps(usingisopleths)	Analysis and Apply
	Biogeography Unit V: Mapping of protected areas (National park, biosphere reserve and wildlife sanctuary) of Assam/ N.E.India/India.	Remember and Understand

	Unit VI: Mapping of phyto-geographic and zoogeographic regions of theworld	
	Unit VII: Mapping of Biodiversity hotspots of the world.	Remember and Understand
	Unit VIII: Mapping of Soil types of Assam/N.E. India andSoilhorizons	Remember and Understand

Course Name: Human Geography
Paper Code: GGY-HC–2036

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to:	**Theory** Human Geography Unit I :Fieldofhumangeography:meaning,scopeandimportance.	Remember ,Understand and Analysis
	Unit II: Concepts of man-environmentrelationship: Determinism andPossibilism.	Remember and Understand
	Unit III:Impact of environment on man; impact of man on environment; population growth and environmental changes; house types in different environmentalconditions.	Remember ,Understand and Analysis
	Unit IV:Globalpatternsofracial,re	Remember ,Understan

	ligiousandlinguisticcomposi tionofpopulation.	d and Analysis
	Unit V: Origin, growth and characteristics of rural and urban settlements; Patterns of rural settlements;Patternsofurbani zationinIndiaandN.E.India.	Remember ,Understan d and Analysis
	Practical Unit I: Traditionalhousetypesofsele ctedethnicgroupsofNorth-EastIndia.	Analysis and Apply
	Unit II: Trend of population growth in the world in relation to five most populous countries of the world using linegraph..	Analysis and Apply
	Unit III: Religious composition of population in the world and three most populous countries of the worldusingpie-graph.	Analysis and Apply
	Unit IV: Spatial patterns of urban population in Assam and N.E. India at state level through choroplethmap.	Analysis and Apply
	Unit V: Drawing of major rural settlement types/patterns; Morphological diagram of a village andatown(preferablybasedo nstudent'sownvillageandto wn	Analysis and Apply

IIIth Semester

Course Name: Economic Geography
Paper Code: GGY-HC-3016

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The paper will help the students to understand how geographic aspect is associated with economic space. • The students will gain knowledge about the classification, distribution and importance of different resources and economic activities from geographical perspective. • The paper deals with the economic and resource base development which will assist the students to understand the subject matter at global context.	**Theory** Economic Geography Unit:I Meaning, scope and approaches ofEconomicGeography.	Remember ,Understand and Analysis
	Unit: II Economic activity: meaning and classification; Production system: Role of land, labour andcapital.	Remember and Understand
	Unit III: Agriculture: Factors influencing agriculture; types of agriculture; Von Thunen's model of agricultural location; Factors influencing cultivation of wheat, rice, coffee and tea, and theirdistributionandproductionindifferentpartsoftheworld.	Remember and Understand
	Unit IV: Manufacturing: Factors influencing industrial location; Classification of industry; Weber's theory of industrial location; Factors, distribution and production of iron and steel, cotton textileandITindustriesintheworld;Specialeconomiczonesandtechnologyparks.	Remember and Understand

		Unit V: Transport system: Modes of transport, factors influencing transport development and role of transport in resource mobilization and economicdevelopment.	Remember ,Understand and Analysis
		Unit VI: Trade: Factors influencing trade in different countries of the world; Trade relations of India with the countries like USA, Russia andJapan.	Remember ,Understand and Analysis
	After the completion of this course, the students will be able to: • The students will learn about population data representation and interpretation using different cartographic techniques. • The paper will be useful for the students in identifying different settlement patterns across different geographical settings. • The paper will test the sincerity and discipline of the students in terms of geographical exercises conducted in the class through preparation of practical note-book.	**Practical** Unit I: Trend of rice, wheat and iron & steel production in the world/USA/India since 1960 using moving average and leastsquaresmethods.	Analysis and Apply
		Unit II: Trend of production of wheat, rice, maize and barley in the world/USA since 1960 using Band-graph.	Analysis and Apply
		Unit III: Trend of balance of trade relations (export and import value) of India with USA, China and Japaninrespectofmajorcommoditiessince1990usingBar-graph.	Analysis and Apply
		Unit IV: Regional variation in fertilizer consumption and agricultural productivity in rice, wheat and barleyinselectedcountriesoftheworldusingBar-graph.	Analysis and Apply

Course Name: Economic Geography
Paper Code: GGY-HC-3026

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The paper will help the students to gather an in-depth and detail knowledge of North-East India which is very pertinent at regional context. • The students will get the opportunity to learn about the geographical aspects of Assam and its significance in terms of location, economy and biodiversity. • The paper will be useful for the students to prepare for different national competitive exams in general and regional and local exams in particular.	**Theory** Unit I: India's location and its significance;administrativedivisions	Remember and Understand
	Unit: II : Physical setting: Physiographic divisions and their characteristics; Climate and its seasonal and regional characteristics; vegetation; soil types and itsdistribution.	Remember and Understand
	Unit III: Population: Trend of growth, spatial variation in growth and distribution; Age and sex composition; Linguistic andreligiouscomposition.	Remember and Understand
	Unit IV: Agriculture: Regional distribution and production patterns of rice, wheat andmillet.	Remember ,Understand and Analysis
	Unit V: Industry: Distribution and production patterns of iron and steel, cotton textile and fertilizers;Roleoftransportsysteminindustrialdevelopment.	Remember ,Understand and Analysis
	Unit VI: North-East India: Land of seven sisters and its locational significance; physiographic framework; forest cover; agricultural	Remember ,Understand and Analysis

		practices including shifting cultivation; industrial development scenario; population growth, distribution and ethniccomposition.	
After the completion of this course, the students will be able to: • The students will become skilled at preparing, reading and analysing different physical and cultural maps. • The paper will provide an opportunity to the students to undertake a field study which will bring a comprehensive research development among the students. • The task of preparing a practical notebook will develop the qualitative skill of the students.	**Practical** Unit I: Trend of population growth and growth rates in India and N.E. India since 1901 using Census data(Source:censusindia.gov.in).	Analysis and Apply
	Unit II: Choroplethmappingtoshows patialvariationindecennialpo pulationgrowthrateinIndia	Analysis and Apply
	Unit III: Spatial variation in the patterns of religious composition of population in India and Social compositionofpopulation(SC,STandGeneral)inN.E.Indi ausingpie-graph.	Analysis and Apply
	Unit IV: Trend of foodgrains production (rice, wheat, maize, barley, jowar and bajra) in India since 1950-51usingband-graph.	Analysis and Apply
	Unit V: Map showing distribution of major tribal groups in North-EastIndia.	Analysis and Apply

Course Name: Quantitative Methods in Geography
Paper Code: GGY-HC-3036

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: *Course outcomes:* • The students will acquire fundamental knowledge about cartography, map characteristics, map design and map layout. • The paper will be useful for the students in terms of surveying an area and learning the basic principles and techniques associated with surveying. • The students will understand the need of quantification in Geography and learn important quantitative methods involved in geographic data analysis.	**Theory** Unit I: Quantification and its significance in geographical study; advantages and limitations of quantitative methodsingeography.	Remember and Understand
	Unit: II :Geographical Data: Nature, types and sources; scale of measurement (nominal, ordinal, intervalandratio).	Remember and Understand
	Unit III. Measures of central tendency (mean, median and mode) and dispersion (range, quartile deviation, mean deviation, standard devi	Remember and Understand
	Unit IV:Sampling techniques: meaning of sampling and its need; types of sampling (simple random andstratifiedrandom).	Remember ,Understand and Analysis
	Unit V: Time series analysis and its applications in geographical studies; Basic techniques of timeseriesdataanalysis(semi-average,movingaverageandleastsquares).	Remember ,Understand and Analysis
	Unit VI:Correlation and Regression Analysis: Meaning of correlation; Bi-variate coefficient of correlation (Spearman's rank correlation and Pearson's product-moment	Remember ,Understand and Analysis

		correlation); linear regression analysis; and their applications in geographical dataanalysis	
After the completion of this course, the students will be able to: • This paper will provide the students to undertake survey exercises in a geographical area and apply different cartographic techniques to map the same. • Learning map projections is an integral part of map making and this paper will enable the students to gain insight about various map projection techniques. • The paper deals with representing socio-economic data in the form of maps which will be useful for the students in their project work.	**Practical** Unit I:Tabulation/Grouping of geographical data for making frequency distribution table; Preparation of Histogram, Frequency PolygonandFrequencyCurve	Analysis and Apply
	Unit II: . Computation of mean, median and mode for ungrouped and grouped geographical data; Determination of median and mode using graphical methods; Determination of the locationofspatialmeancentreofsettlements(usingcentrographicmeasure).	Analysis and Apply
	Unit IIIComputation of the values of standard deviation and coefficient of variation of ungrouped and grouped data relating to some geographical phenomena (rainfall, landholding, income, production, etc) for comparison of distribution patterns.	Analysis and Apply
	Unit IVAnalysis of time series data of some geographical phenomena (rainfall, production, export value, import value, etc) using moving average and least squares methods.	Analysis and Apply

	Unit V: Computation of coefficient of correlation between two logically associated geographical phenomena using Spearman's rank correlation and Pearson's product-moment correlation formulae; Preparation of scatter diagram and fitting the line of linear regression of Y on X foranysetofbi-variatedatarelatingtomeaningfulgeographicalphenomena.	Analysis and Apply

IVth Semester

Name: Environmental Geography and Disaster Management
Paper Code: GGY-HC-4016

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The paper will introduce the students to diverge aspects of environment and its issues and its close relationship to development. • The students will obtain the opportunity to discuss and understand the geographic dimensions of environmental problems.	Theory Unit I: Environmental Geography: Nature, Scope and Significance	Remember and Understand
	Unit: II : Human-Environment Relationships – Historical progression, Adaptation in different Biomes.	Remember and Understand
	Unit III: Major Global Environmental Problems: Pollution, Deforestation, Desertification, Global Warming, and Bio-Depletion.	Remember and Understand

• The paper will provide the students a broad and detail idea of sustainable management and development from geographical perspective which is one of the relevant topic in present day context.	Unit IV: Meaning of Hazard, Disaster, Risk and Vulnerability; Types of hazard/disaster (Natural and Manmade).	Remember ,Understand and Analysis
	Unit V: Disaster Management Cycle and Phases: Prevention, Preparedness, Response, Rehabilitation, Reconstruction and Mitigation,	Remember ,Understand and Analysis
	Unit VI: Major Hazards and Disasters, and their Management: Flood, Earthquake, Wildfire, and Chemical and Nuclear explosions.	Remember ,Understand and Analysis
	Unit VII:National Environmental Policy and National Disaster Management Plan: Environmental Protection Act 1986 and DisasterManagement Act 2005.	Remember ,Understand and Analysis
After the completion of this course, the students will be able to: • This paper will offer the students to learn different cartographic methods to represent population data at local, regional and global context. • Preparation of thematic maps and reading and analysis of these maps	Practical Unit I: Exploring satellite imageries and toposheets to observe bank line change of Brahmaputra river from any selected stretch in three different time periods and preparation of map therefrom.	Analysis and Apply
	Unit II: Mapping of major wetlands in a district and computation of shape and	Analysis and Apply

including toposheets will enhance the understanding capacity of the students and help them to relate different features with one another.	size(area) based distribution.	
	Unit III: Preparation of a map of a nearby wetland and identify the changes in dimension, water level and encroachment it faced during the last one decade. Present your data in tabular form along with the map (field-based).	Analysis and Apply
	Unit IV: Preparation of a long-term precipitation time series curve for any selected station of N.E. India using moving average method by downloading the annual rainfall data for any district/station of Assam for at least 30 years from the portal	Analysis and Apply
	Unit V: Drawing of a diagram of disaster management cycle with reference to some disasters (flood and earthquake) in North-East India and to indicate the activities associated with each step.	Analysis and Apply
	Unit VI: Drawing of a map of Assam showing the major fault lines thereon. Also to plot at least 50 epicentres in last few years and to explain the areas of their concentration by taking the help of Bhookamp app.	Analysis and Apply

	UnitVII: Preparation of a disaster vulnerability map of Assam/ N.E. India based on data of natural disasters (Flood/earthquake/landslide /bank erosion) with respect to their occurrence and frequency in different areas.	Analysis and Apply

Course Name: Population and Settlement Geography
Paper Code: GGY-HC-4026

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • Student will understand about population characteristics. • Student will understand about settlement pattern, rural urban differences etc.	**Theory Population Geography** Unit I: Defining the field of population geography: nature and scope; Its relation with demography.	Remember and Understand
	Unit: II : Sources, characteristics and problems of population data; Perspectives on Census of India publications – Primary Census Abstract, District Census Hand-Book, Sample Registration System, etc.	Remember and Understand
	Unit III: Distribution and density of population: Factors influencing population distribution and density; global pattern of population distribution; population density regions in the world.	Remember and Understand
	Unit IV: Population Growth: Trend of global	Remember ,Understan

		population growth; components of population growth–fertility, mortality and migration; factors influencing fertility and mortality; push and pull factors of migration;spatial variations in population growth in the world.	d and Analysis
		Unit V: Theories of population growth: Malthusian Theory and Demographic Transition Theory.	Remember ,Understan d and Analysis
		Unit VI: Population composition and associated characteristic patterns in global contexts: Age-Sex Composition; Rural-Urban Composition; Contemporary population issues – population ageing, declining sex ratio, pandemics.	Remember ,Understan d and Analysis
		Settlement Geography UnitI: Defining the field of settlement of geography: Nature and scope.	Remember ,Understan d and Analysis
		Unit II : Rural and urban settlements: Factors influencing distribution pattern of settlements; Types of rural settlements; Characteristics of rural and urban settlements.	Remember ,Understan d and Analysis
		Unit III: Morphology of rural and urban settlements; Burgess theory of internal structure of a town.	Remember ,Understan d and Analysis

		UnitIV: Concept of settlement hierarchy, primate city and urban fringe;Christaller's Central Place Theory.	Remember ,Understand and Analysis
After the completion of this course, the students will be able to: • The students will learn about population data representation and interpretation using different cartographic techniques. • The paper will be useful for the students in identifying different settlement patterns across different geographical settings. • The paper will test the sincerity and discipline of the students in terms of geographical exercises conducted in the class through preparation of practical note-book.		**Practical** Unit I: Trend of population growth in Assam/N.E. India/India through line graph; Calculation and graphical representation of trend of decadal and annual growth rates of population in Assam/N.E. India/India.	Analysis and Apply
		Unit II: Choropleth map to show spatial pattern of decadal variation in population growth in Assam/N.E. India/India.	Analysis and Apply
		Unit III: Choropleth map showing spatial pattern of population density in Assam/India.	Analysis and Apply
		Unit IV: Calculation of distribution pattern of settlements in an area using Nearest Neighbour Analysis.	Analysis and Apply
		Unit V: Map showing spatial variation in social/religious/rural-urban composition of population in Assam/N.E. India using pie-graph.	Analysis and Apply
		Unit VI: . Choropleth map showing spatial pattern of level of urbanization in Assam/N.E. India.	Analysis and Apply

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
	UnitVII: Map showing distribution of towns and their varied population size with spheres in Assam/N.E. India.	Analysis and Apply
	Unit VIII: Flow cartogram showing direction and volume of migration into Assam/N.E. India from different parts of India.	Analysis and Apply

Course Name: Remote Sensing, GIS and GPS
Paper Code: GGY-HC-4036

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The paper will provide the students about the latest and recent development in geographical studies which include RS, GIS & GPS. • The students will be introduced to a very new approach in geography and will give them a basic understanding about RS, GIS & GPS. • The paper will encourage the students to seek a new path of study in geographical domain.	Unit I: Remote Sensing: Definition and History of Development.	Remember and Understand
	Unit: II :Principles of Remote Sensing System: Energy sources, EMR and its interaction with Atmosphere and Earth Features; Platform, Sensor and Resolutions;Aerial and Satellite Remote Sensing;Fundamentals of Photogrammetry.	Remember and Understand
	Unit III:Remote Sensing data products, sources and characteristics; Elements of Image Interpretation (Visual & Digital); Digital Image Processing: Image Enhancement and Classification (Supervised and Un-supervised).	Remember and Understand

		Unit IV:Application of Remote Sensing: Land, Vegetation and Water	Analysis and Apply
		GIS Unit 1: Geographical Information System (GIS): Definition, Development, Components, and Functions; Open source GIS.	Analysis and Apply
		Unit ii:GIS Data Types &Structures: Spatial and Non-Spatial Data; Raster and Vector Data Structure, Database Management System (DBMS).	Analysis and Apply
		Unit III: Data Layer Extraction and Spatial Analysis: Buffer, proximity and overlay analysis.	Analysis and Apply
		Unit IV :Application of GIS in geographical studies (Land Suitability analysis, Network analysis, Flood damage estimation)	Analysis and Apply
		GPS Unit I: Global Positioning System (GPS): Types, basicprinciples and functions; Different Navigational Systems.	Analysis and Apply
		UnitII: Application of GPS in surveying and mapping.	Analysis and Apply
After the completion of this course, the students will be able to: • The students will get a first hand on knowledge about a GIS lab and will learn about the different technical aspects of geoinformatics.		**Practical** Unit IVisual Interpretation of Aerial photograph and Satellite Imagery and preparation of thematic maps based on appropriate classification scheme.	Analysis and Apply
		Unit II: Analysis of aerial photographs and satellite	Analysis and Apply

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
• The paper will give the opportunity to develop the technical skills of students in the field of RS, GIS & GPS. • The paper will encourage the students to take geoinformatics as a career option and venture out for diverse opportunities in the same field. •	image: Determination of photo scale and object height from aerial photo (Using Sterescope); Digital classification of satellite image: supervised and unsupervised.	
	Unit III: Geo-referencing and Data layer creation: Map scanning, geometric correction, digitization of different layers using point, line and polygon, attribute data input and their thematic representation, Buffer creation, Overlay analysis.	Analysis and Apply
	Unit IV: GPS data collection, plotting and mapping of various features within college campus.	Analysis and Apply

Vth Semester

Name Course: Social and Political Geography
Paper Code: GGY-HC-5016

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • The paper will be useful for the students in recognizing the intrinsic relationship between geography, society and environment. • The students will be introduced to the	**Theory** Social Geography Unit I: Social Geography: Meaning and scope; its approaches of study; and contemporary trend of its development.	Remember and Understand
	Unit: II : Concept and types of social space and social groups.	Remember and Understand

fundamental concepts in political geography and the paper will help them to understand the political issues from geographical point of view. • The paper will be useful for the students in preparing for NET/SLET/UPSC and other competitive exams.	Unit III: Social Well-being: Concept and Component: Housing, Health and Education; Concept ofHuman development and its measurements.	Remember and Understand
	Unit IV: Contribution of race, religion, language and ethnicity in promoting diversity in India.	Remember ,Understand and Analysis
	Unit V: Social Geographies of inclusion and exclusion: Caste system, slums, gated communities, communal conflicts and crime; Gender identity.	Remember ,Understand and Analysis
	Political Geography Unit I: Political Geography: Nature, scope and recent trends; Approaches to its study	Remember ,Understand and Analysis
	Unit II : Concept of state, nation, and nation-state; Attributes of State.	Analysis and Apply
	Unit III: Concept of frontiers and boundaries; boundary problems with reference to India and NorthEast India; Concept of buffer zones.	Analysis and Apply
	UnitIV: Concept of Geopolitics, Heartland and Rimland; Mackinder'sHeartland Theory.	Analysis and Apply
	Unit V: Concept of colonialism, neo colonialism and lebensraum.	Analysis and Apply

After the completion of this course, the students will be able to: • The students will learn about population data representation and interpretation using different cartographic techniques. • The paper will be useful for the students in identifying different settlement patterns across different geographical settings. • The paper will test the sincerity and discipline of the students in terms of geographical exercises conducted in the class through preparation of practical note-book.	**Practical** Unit I: Mapping the spatial patterns of human development in India and Assam using HDI.	Analysis and Apply
	Unit II: Construction of Ternary Diagram representing social composition of population in India/North East India.	Analysis and Apply
	Unit III: Level of Social well-being with the help of composite Z-score in India /North-East India.	Analysis and Apply
	Unit IV: Sex disparity in literacy in India/North-East Indiausing Sopher's Disparity Index	Analysis and Apply
	Unit V: Computation of Shape Index for selected states of India and countries.	Analysis and Apply
	Unit VI: Construction of a map of India/North-East India highlighting the major inter-state boundary conflict zones.	Analysis and Apply
	UnitVII: Reorganization of the states of North-East India during Pre and Post Independence periods	Analysis and Apply

Course Name: Field Techniques in Geography
Paper Code: GGY-HC-5026

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level

After the completion of this course, the students will be able to: • The students will learn about population data representation and interpretation using different cartographic techniques. • The paper will be useful for the students in identifying different settlement patterns across different geographical settings.	**Theory** Unit I: Geography and Field Studies: Geography as a field science; Need of field work in geography; Nature of field studies in physical geography and human geography.		Remember and Understand
	Unit: II :Concept of Case Study and Its identification in the varying geographical contexts (Physical/Human/Rural/Urban/Environmental).		Remember and Understand
	Unit III:Tools and Techniques in Field Studies:Nature of data and their collection techniques relating to various geographical phenomena (Physical and Human); Structure of field survey questionnaire; Collection of Physical geographic data: Observations and photography, field interview, questionnaire survey, Equipment/Measurement-based survey, etc; Collection of Human geographic data: Questionnaire survey, Participant observation, PRA, Focus group interview/discussion, etc.		Remember and Understand
	Unit IV:Surveying: Concept of ground surveying and mapping;Conduct of traverse surveying with		Remember and Understand

	Prismatic Compass; Profile levelling and contouring with Dumpy Level; Pont distribution survey with GPS; Field mapping of Village, River bank, Wetland, Landslides, Market, etc through Transect, Quadrant and sketch map.	
	Unit V: Preparation of Field Study Report and its broad design: Basis of selection of the theme of field study; Objectives, Methods of data collection, Location/Situation of the study area, Data Analysis and mapping, Interpretation/Findings.	Remember ,Understand and Analysis
After the completion of this course, the students will be able to: • The students will learn about population data representation and interpretation using different cartographic techniques. • The paper will be useful for the students in identifying different settlement patterns across different geographical settings.	**Practical** Unit I:Field observations of a near-by area and preparation of a brief report (within 4-5 pages) about the prevailing physical and human landscape of the area along with its spot photograph.	Analysis and Apply
	Unit II: Preparation of two field survey questionnaire/schedule (within 2 pages each) for collection of data relating to two different broad phenomena/problems (one on physical phenomenon and another on human phenomenon), and processing, tabulation and	Analysis and Apply

	graphical representation of the same.	
	Unit III: Closed traverse surveying within College campus with Prismatic Compass and plotting of some details within the polygon, and preparation of a plan with appropriate scale and error correction, if any.	Analysis and Apply
	Unit IV: Longitudinal profile levelling and contouring in College campus and any nearby area with Dumpy Level, and plotting of collected data in the forms of longitudinal profile and contour map.	Analysis and Apply
	Unit V:Collection of point data from an area with handheld GPS and preparation of a GPS data table and distribution map with down-loaded data.	Analysis and Apply
	Unit VI:Preparation of field map of a village, urban locality/market, river bank/wetland and its adjoining area or their any section through Transect, Quadrant and sketch map along with a spot photograph of the same.	Analysis and Apply

VIth Semester

Course Name: Geographical Thought
Paper Code: GGY-HC-6016

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • develops a comprehensive understanding of the discipline; • apply the historic and contemporary perspective to explain and approach the real world geographic problems.	**Theory** Unit I: Early development of Geography: Ancient,dark age, medieval, and age of exploration and discoveries.	Remember and Understand
	Unit: II :Foundation of modern geography: Contribution of the German, French, British and American geographers.	Remember and Understand
	Unit III:Evolution of geographical thought: Determinism, possibilism, neo-determinism, human ecology, cultural landscape and areal differentiation.	Remember and Understand
	Unit IV:Recent trends in geography: Quantitative revolution and its impact, logical positivism, locational school of thought, behaviouralism, humanistic geographyand post-modernism.	Remember ,Understand and Analysis
	Unit V: Geographical debates: Regional and systematic; ideographic and nomothetic	Remember ,Understand and Analysis
	Unit VI: Models in geography:Meaning, types and significance; basic concepts of Gravity Model, Spatial Diffusion Model and Distance Decay Model.	Remember ,Understand and Analysis
	Practical Unit I:Mapping of routes of exploration and discoveries	Analysis and Apply

	(Marco Polo, Christopher Columbus, Vasco-da gama, and James Cook)	
	Unit II: Intensity of spatial interactionof Guwahati city with neighbouring urban centres.	Analysis and Apply
	Unit III: Mapping of population potential surfaces in Assam using the gravitymodel.	Analysis and Apply
	Unit IV: Demarcation of urban influence zone by using Reily's breaking point formula.	Analysis and Apply
	Unit V: Population Density gradient analysis of Guwahati or any other city.	Analysis and Apply
	Unit VI:Trend of development of paradigms in geography (from Environmental Determinism to Post Modernism) through time-scale graph indicating advocates, tentative time of emergence and overriding theme.	Analysis and Apply
	UnitVII: Preparation of a world map highlighting the major developments of geography (Greek, Arab, France, Germany, Russia, UK and USA) indicating the contribution, name of the contributor and year of contribution.	Analysis and Apply
	Unit VIII: Greek and Arabian contributions to the	Analysis and Apply

	development of Geography in different ages (Name of contributor and name of contribution at different points of time) through time-scale graph.	

Course Name: Research Methods in Geography and Project Work
Paper Code: GGY-HC-6026

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • proceed with a research problem and the steps she/he should adopt and the tools and craft to be employed while doing quality research.	**Theory** Unit I: Meaning and significance of research; types of research; Basics of research methodology; Review of literature and its need; Ethics of research.	Remember and Understand
	Unit: II :Geographic Research: Meaning and Characteristics; Formulation of research problem.	Remember and Understand
	Unit III:Research Design: Statement of the problem, Review of research works, Objectives, Research questions, Hypotheses, Database and methodology, Significance, Organization of the Work and Referencing.	Remember and Understand
	Unit IV:Data Collection: Types and Sources of Data; Methods of primary data collection (both qualitative and quantitative, and physical and human	Remember and Understand

	geographic data); Concept of sample survey; Pilot survey; Data processing	
	Unit V: Statistical Analysis of Data: Qualitative data analysis; Quantitative data analysis; Data representation	Remember ,Understand and Analysis
	Unit VI: Structure of a Research Report: Preliminaries; Text; Tables, Figures and Appendices; Citations, References and Bibliography; Research/Project Report Writing; Executive Summary.	Remember ,Understand and Analysis
	Project Report: Each student will have to prepare a Project Report on a suitable geographical problem under the guidance of respective teacher following appropriate methodology, data base and literature review.	Remember ,Understand and Analysis

Course Name: Geography of Health
Paper Code: GGY-HE–6036

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • Understand the concept of human health and	**Theory** Unit I: Geography of Health: Definition and significance; approaches of study: ecological, social and spatial; dualism between	Remember and Understand

healthcarefrom the perspectiveof Geography • Acquire knowledge about factors influencing human health and occurrence of diseases in varying ecological settings. • useful information about the impact of global climate change on human health and occurrence of various diseases in different ecological settings in India.	medical geography and geography of health.	
	Unit: II : Disease ecology: ecology and human health; geographical factors affecting human health; factors influencing disease transmission (pathological, physical, environmental, social, cultural and economic); Diffusion of diseases and their causes in varied biotic, physical and cultural environments.	Remember and Understand
	Unit III:Classification of diseases: genetic, zoonotic, communicable, non-communicable, occupational, deficiency diseases and malnutrition.	Remember and Understand
	Unit IV:Disease occurrence: emergence, re-emergence and persistence; modes of transmission of major diseases (Malaria, Japanese encephalitis, tuberculosis, hepatitis, AIDS and COVID-19) and their broad global distribution.	Remember ,Understand and Analysis
	Unit V: Heathcare systems: Meaning and components; Universal government-funded health system; Role of WHO and UNICEF in global health care; SDG3 for good health and Well-being; Healthcare services in India: family welfare, immunization, National Health Mission and	Remember ,Understand and Analysis

	itsprogrammes, health for all programmes, challenges to health care system during pandemic situation like COVID-19.	
	Unit VI: Environment, human habit and health: Basic concept and ideas realting to food habit and health, occupation and health, environmental degradation and health, lifestyle and human health.	Remember ,Understand and Analysis
	Practical Unit I:Mapping of health status indicators (hospital beds, primary health centres, doctors, para-medics, etc.) in Assam/N.E. India using Z-score method.	Analysis and Apply
	Unit II: Trend of infant mortality and maternal mortality rates in India in relation to selected developed and developing counties using line graph	Analysis and Apply
	Unit III: Choropleth mapping of infant mortality in India at state level	Analysis and Apply
	Unit IV: Correlation analysis between any physical determinants (monthly rainfall/monthly average temparature) and epidemiological incidence of a disease (monthly malaria cases) in any district of Assam.	Analysis and Apply

	Unit V: Map showing spatial variation of disease incidence rate in India/N.E. India at state level.	Analysis and Apply
	Unit VI:Mapping of seasonal variation in the occurrence of Covid-19 cases in Assam at district level using pie graph.	Analysis and Apply
	UnitVII: Preparation of questionnaire for healthcare and health status survey	Analysis and Apply
	Unit VIII: Computation of distribution pattern of hospitals, health centres, etc. using nearest neighbour analysis.	Analysis and Apply

Course Name: Geography of Tourism
Paper Code: GGY–HE-6056

Course Outcome	Unit/ Topic	Bloom's Taxonomy Level
After the completion of this course, the students will be able to: • develop ideas on how geographical factors tangent on tourism activities and how geographers seek to address issues of development and carrying capacities of varied environments.	**Theory** Unit I: Geography of Tourism: Nature and scope; Concepts and Issues of tourism; Recreation and leisure inter-relations; Robinson's geographical parameters of tourism.	Remember and Understand
	Unit: II : Factors and types of tourism: Nature tourism, Cultural tourism, Medical tourism, Agritourism, Adventure tourism, Pilgrimage, etc.	Remember and Understand

• enroll in a research programme and/or provide openings for them to work with tourism/eco-tourism planning agencies.	Unit III:Recent trends in tourism: International and Domestic (India); Eco-Tourism; Sustainable tourism; Meetings, Incentives, Conventions and Exhibitions (MICE)	Remember and Understand
	Unit IV:Impact of tourism oneconomy,environmentandsociety.	
	Unit V: Tourism development in India: Tourism infrastructures; Case studies of tourism development inHimalaya,Desert,Coastal Areas and North-East India with special reference to Assam; NationalTourismPoliciesand prospects.	Remember ,Understand and Analysis
	Practical Unit I:Trend of growth of tourist arrivals in the World/India/Assam since 1960 using Movingaverage method and least squares method.	Analysis and Apply
	Unit II: Trend of tourist arrivals in the north-eastern states of India and a few top-ranking tourist arriving states of India since 1980 using Band-graph.	Analysis and Apply
	Unit III: Line Graph showing pattern of tourist arrival (Domestic and International)in relation to rainfall and temperature in a year for selected tourist spots of North-East India / Assam.	Analysis and Apply
	Unit IV: Spatial Patterns of Seasonal variation (Spring, Summer, Autumn and Winter) in tourist arrival in capital	Analysis and Apply

	cities of North-East Indian states using Pie diagram and Bar Diagram.	
	Unit V: Preparation of a transport connectivity (road, railway and air) map of Assam/North-East India for major tourist destinations.	Analysis and Apply
	Unit VI:Preparationof a tourist map of North-East India showinglocations of important nationalparks and wildlife sanctuaries from tourism potential perspectives (indicating the major highlights of the respective destinations including distance from Guwahati city within box)	Analysis and Apply
	UnitVII: Preparationof a tourist guide map of North-East India showing location of major tourist destinations and road connectivity routes from Guwahati city.	Analysis and Apply
	Unit VIII: Mapping of trekking route in a hilly area suitable for adventure tourism using GPS	Analysis and Apply