

HOOGHLY WOMEN'S COLLEGE

DEPARTMENT OF GEOGRAPHY

PO and CO

2018-19

B.A./B.Sc. Honours in Geography (under **CBCS** curriculum notified by The University of Burdwan).

Programme Outcome (PO)

The Choice Based Credit System (CBCS) in Geography has been introduced from the academic session 2017-18. This entails a Bachelor of Arts (B.A.) / Bachelor of Science (B.Sc.) Honours and General Degree Programmes, spanning three years and encompassing six semesters. The envisioned Programme Outcome is enumerated as follows:

Geotectonics, Geomorphology, Climatology, Soil and Bio Geography and Environmental Geography

Knowledge regarding the origin of the Earth and the universe, their composition, tectonic evolution and mechanisms, geomorphic theories and processes, composition and nature of the atmosphere, wind circulation, atmospheric disturbance and various weather phenomena, climatic classification, concept of soil, soil forming processes, nature and types of soil, concepts related to ecosystem and various facets of the ecosystem as well as the anthropogenic impact on components of the ecosystem., burning environmental issues, the concept of Environmental Impact Assessment and matrices. Practical training through construction of matrix, interpretation of Air Quality Index, quality assessment of soil and perception survey.

Cartographic Techniques and Thematic Mapping

Practical knowledge and hands on training on the concept and types of Scale, projections and their uses, importance of survey, use of surveying instruments, surveying techniques, interpretation of geological maps, weather maps, topographical maps and creation of thematic maps.

Human Geography, Cultural Geography, Population and Settlement Geography

The nature, scope & approaches of Human Geography, society and its various facets, ideas of ecumene and ekistics, concept of culture with its dimensions, the dynamics of population, concept, nature and types of Rural & Urban settlements are imparted to the students to get an overview of the ever changing society, its nature as well as its fascinating components.

Statistical Methods in Geography

Theoretical as well as practical knowledge on geographical data collection, representation, statistical analysis and application.

Computer Basics and Application

The students would become familiar with MS- excel and learn the basics of statistical analysis and their graphical representation which are basic requirements in quantitative techniques in geographical studies.

Geography of India and West Bengal

An overview of India and the state of West Bengal with its dialectics have been provided as well as knowledge about some specific areas from West Bengal have also been highlighted.

Economic Geography

A geographical perspective on various economic activities such as agriculture, industry, transports and trade and the distribution of resources have been highlighted upon. Some of the location theories have also been enumerated.

Concept of Regional Planning and Development

An idea about Regional Planning and development, application, models, concept of regional inequality and disparity along with strategies for mitigation of regional imbalances with special reference to India have been provided.

Research Methodology and Field Work

The significance of research and its types, methodology followed in pursuit of research and the techniques of writing a research project have been discussed. The role and significance of field work, techniques and use of various tools and collection of samples have been provided through field study tour.

Remote Sensing and GIS

Theoretical knowledge regarding the concept of Remote Sensing, GIS and GNSS along with its practical counterpart wherein specific software has been used to provide hands on experience in various aspects of GIS like georeferencing, conversion of conventional maps into their digitized version and preparation of thematic maps in digital format.

Geographical Thought

The historical evolution and the growth of Geography as a separate discipline along with its different schools of thought and various approaches have been elucidated.

Disaster Management

Geography being a science harping upon environment and the effect of man on environment, it entails the concepts of disasters and hazards, their classification, responses and preparedness along with techniques of mapping hazards. Some important hazards have been studied with special emphasis on upon their vulnerability, consequences and management.

Course Outcome:

Sem I (Honours)

COURSE OUTCOME	
CC1 Geotectonics and Geomorphology Unit 1	Students would study about the evolution of the earth with reference to geological time scale, interior of the earth with special reference to seismology, concepts of isostasy and plate tectonics.
Unit 2	Weathering and mass wasting, Models of landscape evolution, theories of Slope Development, development of river network and landforms on uniclinal and folded structures, types of rocks and resultant landforms , Karst, Glacial and fluvio-glacial processes and landforms and Aeolian and fluvio-aeolian processes and landforms would be discussed.
CC2 Unit 1 Cartographical Techniques and Geological Map Study (Theory)	Theoretical knowledge about the classification and types of maps and scale, Coordinate Systems, Geoid and Spheroid, Map Projections, Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement, Topographical Maps and their interpretation, types of rocks and minerals and their characteristics, various concepts related to interpretation of geological maps would be imparted to the students.
Unit 2 (Practical)	The practical part would include construction of Scales, Projections, interpretation of Topographical Maps and Geological Maps.

Course Outcome:

Sem I (General)

COURSE OUTCOME	
CC1 Geotectonics, Geomorphology, Scale and Cartography	Students would study about weathering and resultant landforms, the interior of the earth with special reference to seismology, concept of plate tectonics, landform development in arid and glaciated regions, fluvial landforms, the Fluvial Cycle of Erosion by Davis and Penck and Hydrological Cycle and groundwater.
Unit 1 Geotectonics and Geomorphology (Theory)	
Unit 2 Scale and Cartography (Practical)	The practical part includes construction of scales, proportional diagrams like circles and squares, bar diagrams and age sex pyramid and hythergraph and climograph.

Sem-III (Honours)

COURSE OUTCOME	
CC 5 Climatology Unit 1: Elements of the Atmosphere	Description of the nature, composition and layering of the atmosphere, insolation, heat budget of the atmosphere, horizontal and vertical distribution of temperature, inversion of temperature and the concept of the Greenhouse effect and importance of ozone layer.
Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification	Students would gain knowledge about the processes, mechanisms and types of condensation and precipitation, types, characteristics and modifications of air mass, fronts, weather stability and instability, atmospheric circulation, types of climate and climate change
CC 6 Statistical Methods in Geography (Theory)	The importance and significance of Statistics in Geography, types and collection of data, sampling and scales of measurement of data, frequency distribution, various aspects of statistical analysis like central tendency, measures of dispersion, correlation and regression and time series analysis would be discussed in detail.
CC 6 Statistical Methods in Geography (Practical)	Practical portion would include the construction of data matrix, Histograms and frequency curve, scatter diagram and Regression line and their corresponding interpretation.
CC 7 Geography of India Unit 1: Geography of India	A vivid description of the Geology and physiographic divisions, climate, soil, vegetation and population as well as distribution of population by race, caste, religion, language, tribes of India would be imparted. The agricultural regions, the Green revolution, mineral and power resources and industrial development India's since independence would also be dealt with. The idea of regionalisation of

<p>Unit 2: Geography of West Bengal</p> <p>SEC 1 Computer Basics and Computer Applications (Practical)</p>	<p>India with emphasis of the views of Spate and Bhatt would also be discussed.</p> <p>An overview of the state of West Bengal entailing the physiographic divisions, forest and water resources, population and human development, its resources including mining, agriculture and industries have been provided. Special emphasis on regional Development of Darjeeling Hills and Sundarban would be given.</p> <p>Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.</p>
--	--

Sem-III(General)

COURSE OUTCOME	
CC3 Human Geography, Map Projection and Map Interpretation Unit 1 Human Geography (Theory)	Knowledge regarding nature, major subfields, contemporary trends of Human Geography, concept of space, society and cultural regions, race, language and religion and the lifestyles of the Eskimos would be elucidated. Description about the population growth and the Demographic Transition Theory, population migration types in India, world distribution and composition of population with special reference to age, gender and literacy. Also the concept of types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.
Unit 2: Map Projection and Map Interpretation	Practical aspect includes Simple Conical Projection with One Standard Parallel and Cylindrical Equal Area Projection, interpretation of topographical and weather maps.
SEC 1 Computer Basics and Computer Applications (Practical)	Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.

Sem-II (Honours)

COURSE OUTCOME	
<p>CC3 Human Geography</p> <p>Unit 1: Nature and Principles</p> <p>Unit 2: Society, Demography and Ekistics</p>	<p>Knowledge regarding nature, scope and recent trends of Human Geography, evolution of humans, concept of race and ethnicity; description of major racial groups of the world, concept of Space, society and cultural regions (language and religion), concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world.</p> <p>Description about the evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies, human – environment relations with special reference to Arctic and hot desert regions, population growth and distribution, population composition; demographic transition model, Population–Resource regions and human, population and environment relations with special reference to Development– environment conflict. Also the concept of Social morphology, different rural house types in India, types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.</p>
<p>CC4 Cartograms, Survey and Thematic Mapping (Theory)</p>	<p>Theoretical knowledge about Cartograms and Thematic Maps, concept and utility of Isopleths and Choropleth, concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph would be provided to the students. The preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) and the basic concepts of surveying and survey equipments and the interpretation of Land use and land cover maps would be elucidated.</p>
<p>Cartograms, Survey and Thematic Mapping (Practical)</p>	<p>Practical aspect includes the diagrammatic representation of data like the Age-sex pyramid diagram, pie diagram, proportional circles, dots and spheres. Techniques for drawing of isolines and Choropleth mapping would be included. Field survey entailing Contouring by Dumpy Level and Prismatic Compass and the determination of Height of objects using Transit Theodolite would also be taught.</p>

Sem-II (General)

COURSE OUTCOME	
CC2 Climatology Soil, BioGeography and Surveying Unit 1: Climatology, Soil and BioGeography (Theory)	Students would gain knowledge about the elements of weather and climate, composition and layering of the atmosphere, horizontal and vertical distribution of temperature, forms of precipitation and types of rainfall, tropical and temperate cyclones and the climatic classification of Koppen..Initiation into the concept of soil, factors of soil formation, physical and chemical properties of soil, formation of Podzol and Laterite soils are enumerated. This unit would also consist of definition and of Biosphere and Bio-geography, meaning of Ecology, Ecosystem, Environment, Communities, Habitats, Ecotone and Biotopes and detailed description of Rainforest and Temperate Grassland Biomes.
Unit 2: Surveying and Levelling (Practical)	Practical aspect includes definition and classification of surveying, Plane Table survey by radiation method, traversing by Prismatic Compass and drawing of longitudinal profile by Dumpy Level.

Sem-IV (Honours)

COURSE OUTCOME	
<p>CC8 Regional Planning and Development</p> <p>Unit 1: Regional Planning</p> <p>Unit 2: Regional Development</p>	<p>Description about the concept and classification of Regions, types of Planning; Principles and Techniques of Regional Planning its need and Multilevel Planning in India and the concepts of Metropolis, Metropolitan Areas and Metropolitan Region.</p> <p>The meaning of development, growth versus development, various models for Regional Development like the Growth Pole (Perroux) and Core Periphery (Hirschman) models, Model for Regional Development in India: Growth Foci (R.P.Misra) have been enumerated along with the concept of regional inequality and disparity. The concept, significance and the indicators of Human Development have been dealt with. The status of Regional Imbalances in India, its strategies with emphasis on NITI Aayog would be discussed.</p>
<p>CC 9 Economic Geography</p> <p>Unit 1: Concepts and Approaches</p> <p>Unit 2: Economic Activities</p>	<p>The meaning approaches and concepts in Economic Geography and factors influencing location of economic activity and forces of agglomeration would be described in this unit.</p> <p>This unit includes the description of the concept and classification of economic activities. The Location Theories of Von Thünen and Alfred Weber have been discussed and analysed. An insight into the functions of the International Trade Blocs: WTO and OPEC would also be provided.</p>

CC 10 Environmental Geography	<p>The students would be introduced to the concept of Environmental Studies, the historical changes in perception of Environment, the concept of Ecosystem, its structure and functions, environmental degradation and pollution, environmental issues related to agriculture and waste management. The concept and issues related to bio-diversity and the various environmental programs and policies on Forest and Wetland would also be touched upon.</p>
Environmental Issues (Theoretical)	
Environmental Geography (Practical)	<p>The practical part includes the preparation of questionnaire for perception survey on environmental problems, construction and interpretation of Environmental Impact Assessment: Leopold Matrix, quality assessment of soil and interpretation of air quality.</p>
SEC –2 Field Work (Practical)	<p>The students during their field study tour would be trained to carry out a comprehensive fieldwork selecting a particular research problem and later on they are to write a report based on their findings using suitable methodology.</p>

Sem-IV (General)

COURSE OUTCOME	
CC 1D Environmental Geography Environmental Issues (Theoretical)	The students would be introduced to the concept and approaches of Environmental Geography, the concept of Ecosystem, its structure and functions, human environment relationship in Mountain and Coastal Regions, air and water pollution. The concept and issues related to environmental programmes and policies would also be described as well as environmental movement like Chipko. The importance of wetlands and the idea of Ramsar sites in India have been elucidated.
Environmental Geography (Practical)	The practical part includes the preparation of questionnaire for perception survey on air pollution and health, quality assessment of soil and mapping of wetlands and forests in order to gain a practical insight into the environmental domain.
SEC –2 Regional Planning and Development	Description about the concept and classification of Regions and Regional Planning, types of Planning have been touched upon. The concept and the indicators of Human Development have been dealt with. The development of agriculture and industry in India since 1990s as well as DVC as part of the regional planning process in India has also been explained. The technique and the methodology of preparation of questionnaires on sanitation, health and waste management would be discussed.

HOOGHLY WOMEN'S COLLEGE

DEPARTMENT OF GEOGRAPHY

PO and CO

2019-20

B.A./B.Sc. Honours in Geography (under **CBCS** curriculum notified by The University of Burdwan).

Programme Outcome (PO)

The Choice Based Credit System (CBCS) in Geography has been introduced from the academic session 2017-18. This entails a Bachelor of Arts (B.A.) / Bachelor of Science (B.Sc.) Honours and General Degree Programmes, spanning three years and encompassing six semesters. The envisioned Programme Outcome is enumerated as follows:

Geotectonics, Geomorphology, Climatology, Soil and Bio Geography and Environmental Geography

Knowledge regarding the origin of the Earth and the universe, their composition, tectonic evolution and mechanisms, geomorphic theories and processes, composition and nature of the atmosphere, wind circulation, atmospheric disturbance and various weather phenomena, climatic classification, concept of soil, soil forming processes, nature and types of soil, concepts related to ecosystem and various facets of the ecosystem as well as the anthropogenic impact on components of the ecosystem., burning environmental issues, the concept of Environmental Impact Assessment and matrices. Practical training through construction of matrix, interpretation of Air Quality Index, quality assessment of soil and perception survey.

Cartographic Techniques and Thematic Mapping

Practical knowledge and hands on training on the concept and types of Scale, projections and their uses, importance of survey, use of surveying instruments, surveying techniques, interpretation of geological maps, weather maps, topographical maps and creation of thematic maps.

Human Geography, Cultural Geography, Population and Settlement Geography

The nature, scope & approaches of Human Geography, society and its various facets, ideas of ecumene and ekistics, concept of culture with its dimensions, the dynamics of population, concept, nature and types of Rural & Urban settlements are imparted to the students to get an overview of the ever changing society, its nature as well as its fascinating components.

Statistical Methods in Geography

Theoretical as well as practical knowledge on geographical data collection, representation, statistical analysis and application.

Computer Basics and Application

The students would become familiar with MS- excel and learn the basics of statistical analysis and their graphical representation which are basic requirements in quantitative techniques in geographical studies.

Geography of India and West Bengal

An overview of India and the state of West Bengal with its dialectics have been provided as well as knowledge about some specific areas from West Bengal have also been highlighted.

Economic Geography

A geographical perspective on various economic activities such as agriculture, industry, transports and trade and the distribution of resources have been highlighted upon. Some of the location theories have also been enumerated.

Concept of Regional Planning and Development

An idea about Regional Planning and development, application, models, concept of regional inequality and disparity along with strategies for mitigation of regional imbalances with special reference to India have been provided.

Research Methodology and Field Work

The significance of research and its types, methodology followed in pursuit of research and the techniques of writing a research project have been discussed. The role and significance of field work, techniques and use of various tools and collection of samples have been provided through field study tour.

Remote Sensing and GIS

Theoretical knowledge regarding the concept of Remote Sensing, GIS and GNSS along with its practical counterpart wherein specific software has been used to provide hands on experience in various aspects of GIS like georeferencing, conversion of conventional maps into their digitized version and preparation of thematic maps in digital format.

Geographical Thought

The historical evolution and the growth of Geography as a separate discipline along with its different schools of thought and various approaches have been elucidated.

Disaster Management

Geography being a science harping upon environment and the effect of man on environment, it entails the concepts of disasters and hazards, their classification, responses and preparedness along with techniques of mapping hazards. Some important hazards have been studied with special emphasis on upon their vulnerability, consequences and management.

Course Outcome:

Sem I (Honours)

COURSE OUTCOME	
<p>CC1 Geotectonics and Geomorphology Unit 1</p>	<p>Students would study about the evolution of the earth with reference to geological time scale, interior of the earth with special reference to seismology, concepts of isostasy and plate tectonics.</p>
<p>Unit 2</p>	<p>Weathering and mass wasting, Models of landscape evolution, theories of Slope Development, development of river network and landforms on uniclinal and folded structures, types of rocks and resultant landforms , Karst, Glacial and fluvio-glacial processes and landforms and Aeolian and fluvio-aeolian processes and landforms would be discussed.</p>
<p>CC2 Unit 1 Cartographical Techniques and Geological Map Study (Theory)</p>	<p>Theoretical knowledge about the classification and types of maps and scale, Coordinate Systems, Geoid and Spheroid, Map Projections, Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement, Topographical Maps and their interpretation, types of rocks and minerals and their characteristics, various concepts related to interpretation of geological maps would be imparted to the students.</p>
<p>Unit 2 (Practical)</p>	<p>The practical part would include construction of Scales, Projections, interpretation of Topographical Maps and Geological Maps.</p>

Course Outcome:

Sem I (General)

COURSE OUTCOME	
CC1 Geotectonics, Geomorphology, Scale and Cartography	Students would study about weathering and resultant landforms, the interior of the earth with special reference to seismology, concept of plate tectonics, landform development in arid and glaciated regions, fluvial landforms, the Fluvial Cycle of Erosion by Davis and Penck and Hydrological Cycle and groundwater.
Unit 1 Geotectonics and Geomorphology (Theory)	
Unit 2 Scale and Cartography (Practical)	The practical part includes construction of scales, proportional diagrams like circles and squares, bar diagrams and age sex pyramid and hythergraph and climograph.

Sem-III (Honours)

COURSE OUTCOME	
CC 5 Climatology Unit 1: Elements of the Atmosphere	Description of the nature, composition and layering of the atmosphere, insolation, heat budget of the atmosphere, horizontal and vertical distribution of temperature, inversion of temperature and the concept of the Greenhouse effect and importance of ozone layer.
Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification	Students would gain knowledge about the processes, mechanisms and types of condensation and precipitation, types, characteristics and modifications of air mass, fronts, weather stability and instability, atmospheric circulation, types of climate and climate change
CC 6 Statistical Methods in Geography (Theory)	The importance and significance of Statistics in Geography, types and collection of data, sampling and scales of measurement of data, frequency distribution, various aspects of statistical analysis like central tendency, measures of dispersion, correlation and regression and time series analysis would be discussed in detail.
CC 6 Statistical Methods in Geography (Practical)	Practical portion would include the construction of data matrix, Histograms and frequency curve, scatter diagram and Regression line and their corresponding interpretation.

<p>CC 7 Geography of India</p> <p>Unit 1: Geography of India</p> <p>Unit 2: Geography of West Bengal</p> <p>SEC 1 Computer Basics and Computer Applications (Practical)</p>	<p>A vivid description of the Geology and physiographic divisions, climate, soil, vegetation and population as well as distribution of population by race, caste, religion, language, tribes of India would be imparted. The agricultural regions, the Green revolution, mineral and power resources and industrial development India's since independence would also be dealt with. The idea of regionalisation of India with emphasis of the views of Spate and Bhatt would also be discussed.</p> <p>An overview of the state of West Bengal entailing the physiographic divisions, forest and water resources, population and human development, its resources including mining, agriculture and industries have been provided. Special emphasis on regional Development of Darjeeling Hills and Sundarban would be given.</p> <p>Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.</p>
---	---

Sem-III(General)

COURSE OUTCOME	
<p>CC3 Human Geography, Map Projection and Map Interpretation</p>	<p>Knowledge regarding nature, major subfields, contemporary trends of Human Geography, concept of space, society and cultural regions, race, language and religion and the lifestyles of the Eskimos would be elucidated. Description about the population growth and the Demographic Transition Theory, population migration types in India,</p>

Unit 1 Human Geography (Theory)	world distribution and composition of population with special reference to age, gender and literacy. Also the concept of types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.
Unit 2: Map Projection and Map Interpretation	Practical aspect includes Simple Conical Projection with One Standard Parallel and Cylindrical Equal Area Projection, interpretation of topographical and weather maps.
SEC 1 Computer Basics and Computer Applications (Practical)	Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.

Sem-V (Honours)

COURSE OUTCOME	
CC11 Research Methodology and Field Work	The students would be initiated into the world of research through a theoretical knowledge of the meaning, types and significance of research, literature review in research, research problem, objectives and hypothesis building, research materials and methods and the techniques of writing scientific reports.
Unit 1: Research Methodology (Theoretical)	
Unit 2: Field Work	Knowledge about fieldwork in Geographical studies, its significance, techniques and tools and collection of samples would be given to the students.
FieldWork	The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings

(Practical)	collected from field work.
CC 12 Remote Sensing and GIS Unit 1: Remote Sensing	The definition, concepts and principles of Remote Sensing (RS): Types of Air Photo, RS Satellites, sensors and platforms, EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their Applications with reference to IRS, Principles of False Colour Composites, Image Processing, Pre-processing; enhancement; classification and principles of interpretation of images would be vividly described and discussed.
Unit 2: GIS and GNSS	Knowledge about the definition and Components of Geographical Information System (GIS) and raster and Vector data structures, principles of preparing attribute tables and overlay analysis, principles of GNSS, applications of Geographical Information System in Flood Management and Urban Sprawl would be imparted to the students.
Remote Sensing and GIS (Practical)	Hands on training through a specified software would be provided for Georeferencing of scanned maps, preparation of FCC, preparation of LULC Map by Supervised Image Classification, digitisation of Point, Line and Polygon Features and Preparation of Thematic Map.
DSE-1 Cultural and Settlement Geography Unit 1: Cultural Geography	Description of the concept of Cultural geography, its definition, scope, content and development, concept of Cultural Hearth, Realm; Cultural Landscape, cultural innovation and diffusion, cultural segregation, cultural diversity, and acculturation and the world distribution and their corresponding characteristics of major races would be imparted to the students.
Unit 2: Settlement Geography	In this unit the scope and content of Settlement Geography, the definition and characteristics of Rural Settlement, the concept of site and situation of Rural Settlements, definition of Urban Settlements, Urban Outgrowth, Urban Agglomeration, Urban Morphology and some classical models and the Functional Classification of Cities would be

<p>DSE-2 Population Geography</p> <p>Unit 1</p> <p>Unit 2</p>	<p>discussed.</p> <p>The development of Population Geography, relation between Population Geography and Demography, determinants of population dynamics, some selected theories of population growth, distribution, density and growth of population in India since 1951 would be described in this unit.</p> <p>This unit includes description of the concepts of population composition and characteristics, measures of fertility and mortality, population composition of India: rural and urban, occupational Structure as Per Census of India, migration: Theories, Causes and Types, concept of Human Development Index, population and development: population-resource regions, population policies in some selected countries: Sweden and China and contemporary issues in Population: health and unemployment.</p>
---	---

Sem-V (General)

COURSE OUTCOME	
<p>DSE 1A Economic Geography</p> <p>Unit: 1 Economic geography (Theory)</p> <p>Unit: 2 Field Work (Practical)</p> <p>SEC 3 Collection, Mapping and Interpretation of Climatic Data (Practical)</p>	<p>The students would be given an insight into the scope and content of Economic Geography, economic theories like that of Von Thunen and Weber, different types of primary activities like farming, fishing and mining activities and some secondary activities like cotton textile and petro chemical industries.</p> <p>The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.</p> <p>A practical insight would be provided to the students regarding various aspects of climatic data, its collection and interpretation through handling, reading and recording of some climatic data from instruments like thermometer, hygrometer and barometer;</p>

	preparation of graphs like temperature-rainfall graphs, Climograph, Hythergraph, Ergograph, Windrose Diagram, drawing of Isotherms and Isohyets and the interpretation of Weather Maps.
--	---

Sem-V (General) (GE)

COURSE OUTCOME		
GE 1 Geography	Physical	The students would be given an insight into the definition and scope of Physical Geography, its various facets like the atmosphere and the heat balance, winds, monsoon and Koppen's climatic classification; the lithosphere and the internal structure of the Earth based on seismological evidence, Plate Tectonics and its associated features; the hydrosphere and the hydrological cycle, bottom relief features of the Atlantic Ocean, concept of tides and ocean currents of the Atlantic Ocean. They would also gain knowledge about the fluvial cycle of erosion with special emphasis on the theories of Davis and Penck.

Sem-II (Honours)

COURSE OUTCOME	
CC3 Human Geography Unit 1: Nature and Principles Unit 2: Society, Demography and Ekistics	<p>Knowledge regarding nature, scope and recent trends of Human Geography, evolution of humans, concept of race and ethnicity; description of major racial groups of the world, concept of Space, society and cultural regions (language and religion), concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world.</p> <p>Description about the evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies, human – environment relations with special reference to Arctic and hot desert regions, population growth and distribution, population composition; demographic transition model, Population–Resource regions and human, population and environment relations with special reference to Development– environment conflict. Also the concept of Social morphology, different rural house types in India, types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.</p>

<p>CC4 Cartograms, Survey and Thematic Mapping (Theory)</p>	<p>Theoretical knowledge about Cartograms and Thematic Maps, concept and utility of Isopleths and Choropleth, concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph would be provided to the students. The preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) and the basic concepts of surveying and survey equipments and the interpretation of Land use and land cover maps would be elucidated.</p>
<p>Cartograms, Survey and Thematic Mapping (Practical)</p>	<p>Practical aspect includes the diagrammatic representation of data like the Age-sex pyramid diagram, pie diagram, proportional circles, dots and spheres. Techniques for drawing of isolines and Choropleth mapping would be included. Field survey entailing Contouring by Dumpy Level and Prismatic Compass and the determination of Height of objects using Transit Theodolite would also be taught.</p>

Sem-II (General)

<p align="center">COURSE OUTCOME</p>	
<p>CC2 Climatology Soil, BioGeography and Surveying</p> <p>Unit 1: Climatology, Soil and BioGeography (Theory)</p>	<p>Students would gain knowledge about the elements of weather and climate, composition and layering of the atmosphere, horizontal and vertical distribution of temperature, forms of precipitation and types of rainfall, tropical and temperate cyclones and the climatic classification of Koppen..Initiation into the concept of soil, factors of soil formation, physical and chemical properties of soil, formation of Podzol and Laterite soils are enumerated. This unit would also consist of definition and of Biosphere and Bio-geography, meaning of Ecology, Ecosystem, Environment, Communities, Habitats, Ecotone and Biotopes and detailed description of Rainforest and Temperate Grassland Biomes.</p>
<p>Unit 2: Surveying and Levelling (Practical)</p>	<p>Practical aspect includes definition and classification of surveying, Plane Table survey by radiation method, traversing by Prismatic Compass and drawing of longitudinal profile by Dumpy Level.</p>

--	--

Sem-IV (Honours)

COURSE OUTCOME	
<p>CC8 Regional Planning and Development</p> <p>Unit 1: Regional Planning</p> <p>Unit 2: Regional Development</p>	<p>Description about the concept and classification of Regions, types of Planning; Principles and Techniques of Regional Planning its need and Multilevel Planning in India and the concepts of Metropolis, Metropolitan Areas and Metropolitan Region.</p> <p>The meaning of development, growth versus development, various models for Regional Development like the Growth Pole (Perroux) and Core Periphery (Hirschman) models, Model for Regional Development in India: Growth Foci (R.P.Misra) have been enumerated along with the concept of regional inequality and disparity. The concept, significance and the indicators of Human Development have been dealt with. The status of Regional Imbalances in India, its strategies with emphasis on NITI Aayog would be discussed.</p>

<p>CC 9 Economic Geography</p> <p>Unit 1: Concepts and Approaches</p> <p>Unit 2: Economic Activities</p>	<p>The meaning approaches and concepts in Economic Geography and factors influencing location of economic activity and forces of agglomeration would be described in this unit.</p> <p>This unit includes the description of the concept and classification of economic activities. The Location Theories of Von Thünen and Alfred Weber have been discussed and analysed. An insight into the functions of the International Trade Blocs: WTO and OPEC would also be provided.</p>
<p>CC 10 Environmental Geography</p> <p>Environmental Issues (Theoretical)</p>	<p>The students would be introduced to the concept of Environmental Studies, the historical changes in perception of Environment, the concept of Ecosystem, its structure and functions, environmental degradation and pollution, environmental issues related to agriculture and waste management. The concept and issues related to bio-diversity and the various environmental programs and policies on Forest and Wetland would also be touched upon.</p>
<p>Environmental Geography (Practical)</p>	<p>The practical part includes the preparation of questionnaire for perception survey on environmental problems, construction and interpretation of Environmental Impact Assessment: Leopold Matrix, quality assessment of soil and interpretation of air quality.</p>
<p>SEC –2 Field Work (Practical)</p>	<p>The students during their field study tour would be trained to carry out a comprehensive fieldwork selecting a particular research problem and later on they are to write a report based on their findings using suitable methodology.</p>

Sem-IV (General)

COURSE OUTCOME	
CC 1D Environmental Geography Environmental Issues (Theoretical)	The students would be introduced to the concept and approaches of Environmental Geography, the concept of Ecosystem, its structure and functions, human environment relationship in Mountain and Coastal Regions, air and water pollution. The concept and issues related to environmental programmes and policies would also be described as well as environmental movement like Chipko. The importance of wetlands and the idea of Ramsar sites in India have been elucidated.
Environmental Geography (Practical)	The practical part includes the preparation of questionnaire for perception survey on air pollution and health, quality assessment of soil and mapping of wetlands and forests in order to gain a practical insight into the environmental domain.

Management	
Unit 1 (Theory)	<p>Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards would be provided.</p> <p>Some specific disasters like earthquake, landslide, cyclone and fire would be discussed.</p> <p>The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.</p>
Unit:2(Theory)	
Disaster Management Project Work (Practical)	
DSE 3 Resource Geography	
Unit: 1	<p>The students would be given an insight into the concept, classification, importance of Resource Geography and its relation with other sub-discipline, concept of resource, the Functional Theory of Resource, problems of resource depletion and conservation of resource and the concept of 'Limits to Growth'.</p> <p>The distribution and utilisation of mineral, energy and power resources in India, the contemporary energy crisis and sustainable resource development constitute Unit 2.</p>
Unit: 2	
DSE 4 Soil and Bio Geography	
Unit: 1: Soil Geography	<p>Initiation into the concept of soil, factors of formation, idea of soil profile, physical and chemical properties of soil, types of soil and its classification and soil degradation and management.</p>
Unit-2: Bio-Geography	<p>This unit consist of definition and scope of Bio-geography, meaning of Biosphere, Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes, Laws of Energy Exchange, Food Chain, Food Web and Energy Flow, Bio-Geo Chemical Cycles, factors of growth of plants, the concept and classification of Biomes and the looming threat to biodiversity.</p>

Sem-VI (General)

COURSE OUTCOME	
DSE 1B Disaster Management Unit 1 Disaster Management (Theory)	Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards have been provided. Some specific disasters like earthquake, landslide, cyclone and fire would be elaborately discussed.
Unit:2 Disaster Management Project Work (Practical)	The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.
SEC 4 Rocks and	The practical portion delves into providing hands on training to

Minerals and their Megascopic Identification (Practical)	identify certain specified specimens of minerals and rocks with the help of certain inherent characteristics.
--	---

Sem-VI (General) (GE)

COURSE OUTCOME	
GE 2 Human Geography	The students would gain knowledge about the concept of Human Geography, its definition, nature, sub fields and contemporary relevance. The concept of Space and Society, Cultural regions, Race and Religion would be elucidated. The growth, distribution and composition of population with reference to age, gender and literacy would be discussed.

HOOGHLY WOMEN'S COLLEGE

DEPARTMENT OF GEOGRAPHY

PO and CO

2020-21

B.A./B.Sc. Honours in Geography (under **CBCS** curriculum notified by The University of Burdwan).

Programme Outcome (PO)

The Choice Based Credit System (CBCS) in Geography has been introduced from the academic session 2017-18. This entails a Bachelor of Arts (B.A.) / Bachelor of Science (B.Sc.) Honours and General Degree Programmes, spanning three years and encompassing six semesters. The envisioned Programme Outcome is enumerated as follows:

Geotectonics, Geomorphology, Climatology, Soil and Bio Geography and Environmental Geography

Knowledge regarding the origin of the Earth and the universe, their composition, tectonic evolution and mechanisms, geomorphic theories and processes, composition and nature of the atmosphere, wind circulation, atmospheric disturbance and various weather phenomena, climatic classification, concept of soil, soil forming processes, nature and types of soil, concepts related to ecosystem and various facets of the ecosystem as well as the anthropogenic impact on components of the ecosystem., burning environmental issues, the concept of Environmental Impact Assessment and matrices. Practical training through construction of matrix, interpretation of Air Quality Index, quality assessment of soil and perception survey.

Cartographic Techniques and Thematic Mapping

Practical knowledge and hands on training on the concept and types of Scale, projections and their uses, importance of survey, use of surveying instruments, surveying techniques, interpretation of geological maps, weather maps, topographical maps and creation of thematic maps.

Human Geography, Cultural Geography, Population and Settlement Geography

The nature, scope & approaches of Human Geography, society and its various facets, ideas of ecumene and ekistics, concept of culture with its dimensions, the dynamics of population, concept, nature and types of Rural & Urban settlements are imparted to the students to get an overview of the ever changing society, its nature as well as its fascinating components.

Statistical Methods in Geography

Theoretical as well as practical knowledge on geographical data collection, representation, statistical analysis and application.

Computer Basics and Application

The students would become familiar with MS- excel and learn the basics of statistical analysis and their graphical representation which are basic requirements in quantitative techniques in geographical studies.

Geography of India and West Bengal

An overview of India and the state of West Bengal with its dialectics have been provided as well as knowledge about some specific areas from West Bengal have also been highlighted.

Economic Geography

A geographical perspective on various economic activities such as agriculture, industry, transports and trade and the distribution of resources have been highlighted upon. Some of the location theories have also been enumerated.

Concept of Regional Planning and Development

An idea about Regional Planning and development, application, models, concept of regional inequality and disparity along with strategies for mitigation of regional imbalances with special reference to India have been provided.

Research Methodology and Field Work

The significance of research and its types, methodology followed in pursuit of research and the techniques of writing a research project have been discussed. The role and significance of field work, techniques and use of various tools and collection of samples have been provided through field study tour.

Remote Sensing and GIS

Theoretical knowledge regarding the concept of Remote Sensing, GIS and GNSS along with its practical counterpart wherein specific software has been used to provide hands on experience in various aspects of GIS like georeferencing, conversion of conventional maps into their digitized version and preparation of thematic maps in digital format.

Geographical Thought

The historical evolution and the growth of Geography as a separate discipline along with its different schools of thought and various approaches have been elucidated.

Disaster Management

Geography being a science harping upon environment and the effect of man on environment, it entails the concepts of disasters and hazards, their classification, responses and preparedness along with techniques of mapping hazards. Some important hazards have been studied with special emphasis on upon their vulnerability, consequences and management.

Course Outcome:

Sem I (Honours)

COURSE OUTCOME

<p>CC1 Geotectonics and Geomorphology Unit 1</p>	<p>Students would study about the evolution of the earth with reference to geological time scale, interior of the earth with special reference to seismology, concepts of isostasy and plate tectonics.</p>
<p>Unit 2</p>	<p>Weathering and mass wasting, Models of landscape evolution, theories of Slope Development, development of river network and landforms on uniclinal and folded structures, types of rocks and resultant landforms , Karst, Glacial and fluvio-glacial processes and landforms and Aeolian and fluvio-aeolian processes and landforms would be discussed.</p>
<p>CC2 Unit 1 Cartographical Techniques and Geological Map Study (Theory)</p>	<p>Theoretical knowledge about the classification and types of maps and scale, Coordinate Systems, Geoid and Spheroid, Map Projections, Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement, Topographical Maps and their interpretation, types of rocks and minerals and their characteristics, various concepts related to interpretation of geological maps would be imparted to the students.</p>
<p>Unit 2 (Practical)</p>	<p>The practical part would include construction of Scales, Projections, interpretation of Topographical Maps and Geological Maps.</p>

Course Outcome:

Sem I (General)

COURSE OUTCOME	
CC1 Geotectonics, Geomorphology, Scale and Cartography	Students would study about weathering and resultant landforms, the interior of the earth with special reference to seismology, concept of plate tectonics, landform development in arid and glaciated regions, fluvial landforms, the Fluvial Cycle of Erosion by Davis and Penck and Hydrological Cycle and groundwater.
Unit 1 Geotectonics and Geomorphology (Theory)	
Unit 2 Scale and Cartography (Practical)	The practical part includes construction of scales, proportional diagrams like circles and squares, bar diagrams and age sex pyramid and hythergraph and climograph.

COURSE OUTCOME	
<p>CC 5 Climatology</p> <p>Unit 1: Elements of the Atmosphere</p> <p>Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification</p>	<p>Description of the nature, composition and layering of the atmosphere, insolation, heat budget of the atmosphere, horizontal and vertical distribution of temperature, inversion of temperature and the concept of the Greenhouse effect and importance of ozone layer.</p> <p>Students would gain knowledge about the processes, mechanisms and types of condensation and precipitation, types, characteristics and modifications of air mass, fronts, weather stability and instability, atmospheric circulation, types of climate and climate change</p>
<p>CC 6 Statistical Methods in Geography (Theory)</p>	<p>The importance and significance of Statistics in Geography, types and collection of data, sampling and scales of measurement of data, frequency distribution, various aspects of statistical analysis like central tendency, measures of dispersion, correlation and regression and time series analysis would be discussed in detail.</p>
<p>CC 6 Statistical Methods in Geography (Practical)</p>	<p>Practical portion would include the construction of data matrix, Histograms and frequency curve, scatter diagram and Regression line and their corresponding interpretation.</p>
<p>CC 7 Geography of India</p> <p>Unit 1: Geography of India</p> <p>Unit 2: Geography</p>	<p>A vivid description of the Geology and physiographic divisions, climate, soil, vegetation and population as well as distribution of population by race, caste, religion, language, tribes of India would be imparted. The agricultural regions, the Green revolution, mineral and power resources and industrial development India's since independence would also be dealt with. The idea of regionalisation of India with emphasis of the views of Spate and Bhatt would also be discussed.</p>

<p>of West Bengal</p> <p>SEC 1 Computer Basics and Computer Applications (Practical)</p>	<p>An overview of the state of West Bengal entailing the physiographic divisions, forest and water resources, population and human development, its resources including mining, agriculture and industries have been provided. Special emphasis on regional Development of Darjeeling Hills and Sundarban would be given.</p> <p>Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.</p>
---	---

Sem-III(General)

COURSE OUTCOME	
CC3 Human Geography, Map Projection and Map Interpretation Unit 1 Human Geography (Theory)	Knowledge regarding nature, major subfields, contemporary trends of Human Geography, concept of space, society and cultural regions, race, language and religion and the lifestyles of the Eskimos would be elucidated. Description about the population growth and the Demographic Transition Theory, population migration types in India, world distribution and composition of population with special reference to age, gender and literacy. Also the concept of types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.
Unit 2: Map Projection and Map Interpretation	Practical aspect includes Simple Conical Projection with One Standard Parallel and Cylindrical Equal Area Projection, interpretation of topographical and weather maps.
SEC 1 Computer Basics and Computer Applications (Practical)	Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.

Sem-V (Honours)

COURSE OUTCOME

<p>CC11 Research Methodology and Field Work</p> <p>Unit 1: Research Methodology (Theoretical)</p> <p>Unit 2: Field Work</p> <p>FieldWork (Practical)</p>	<p>The students would be initiated into the world of research through a theoretical knowledge of the meaning, types and significance of research, literature review in research, research problem, objectives and hypothesis building, research materials and methods and the techniques of writing scientific reports.</p> <p>Knowledge about fieldwork in Geographical studies, its significance, techniques and tools and collection of samples would be given to the students.</p> <p>The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.</p>
<p>CC 12 Remote Sensing and GIS</p> <p>Unit 1: Remote Sensing</p> <p>Unit 2: GIS and GNSS</p> <p>Remote Sensing and GIS (Practical)</p>	<p>The definition, concepts and principles of Remote Sensing (RS): Types of Air Photo, RS Satellites, sensors and platforms, EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their Applications with reference to IRS, Principles of False Colour Composites, Image Processing, Pre-processing; enhancement; classification and principles of interpretation of images would be vividly described and discussed.</p> <p>Knowledge about the definition and Components of Geographical Information System (GIS) and raster and Vector data structures, principles of preparing attribute tables and overlay analysis, principles of GNSS, applications of Geographical Information System in Flood Management and Urban Sprawl would be imparted to the students.</p> <p>Hands on training through a specified software would be provided for Georeferencing of scanned maps, preparation of FCC, preparation of</p>

<p>DSE-1 Cultural and Settlement Geography</p> <p>Unit 1: Cultural Geography</p> <p>Unit 2: Settlement Geography</p> <p>DSE-2 Population Geography</p> <p>Unit 1</p> <p>Unit 2</p>	<p>LULC Map by Supervised Image Classification, digitisation of Point, Line and Polygon Features and Preparation of Thematic Map.</p> <p>Description of the concept of Cultural geography, its definition, scope, content and development, concept of Cultural Hearth, Realm; Cultural Landscape, cultural innovation and diffusion, cultural segregation, cultural diversity, and acculturation and the world distribution and their corresponding characteristics of major races would be imparted to the students.</p> <p>In this unit the scope and content of Settlement Geography, the definition and characteristics of Rural Settlement, the concept of site and situation of Rural Settlements, definition of Urban Settlements, Urban Outgrowth, Urban Agglomeration, Urban Morphology and some classical models and the Functional Classification of Cities would be discussed.</p> <p>The development of Population Geography, relation between Population Geography and Demography, determinants of population dynamics, some selected theories of population growth, distribution, density and growth of population in India since 1951 would be described in this unit.</p> <p>This unit includes description of the concepts of population composition and characteristics, measures of fertility and mortality, population composition of India: rural and urban, occupational Structure as Per Census of India, migration: Theories, Causes and Types, concept of Human Development Index, population and development: population-resource regions, population policies in some selected countries: Sweden and China and contemporary issues in Population: health and unemployment.</p>
---	---

COURSE OUTCOME

<p>DSE 1A Economic Geography</p> <p>Unit: 1 Economic geography (Theory)</p> <p>Unit: 2 Field Work (Practical)</p> <p>SEC 3 Collection, Mapping and Interpretation of Climatic Data (Practical)</p>	<p>The students would be given an insight into the scope and content of Economic Geography, economic theories like that of Von Thunen and Weber, different types of primary activities like farming, fishing and mining activities and some secondary activities like cotton textile and petro chemical industries.</p> <p>The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.</p> <p>A practical insight would be provided to the students regarding various aspects of climatic data, its collection and interpretation through handling, reading and recording of some climatic data from instruments like thermometer, hygrometer and barometer; preparation of graphs like temperature-rainfall graphs, Climograph, Hythergraph, Ergograph, Windrose Diagram, drawing of Isotherms and Isohyets and the interpretation of Weather Maps.</p>
--	--

Sem-V (General) (GE)

COURSE OUTCOME		
GE 1 Geography	Physical	The students would be given an insight into the definition and scope of Physical Geography, its various facets like the atmosphere and the heat balance, winds, monsoon and Koppen's climatic classification; the lithosphere and the internal structure of the Earth based on seismological evidence, Plate Tectonics and its associated features; the hydrosphere and the hydrological cycle, bottom relief features of the Atlantic Ocean, concept of tides and ocean currents of the Atlantic Ocean. They would also gain knowledge about the fluvial cycle of erosion with special emphasis on the theories of Davis and Penck.

Sem-II (Honours)

COURSE OUTCOME	
<p>CC3 Human Geography</p> <p>Unit 1: Nature and Principles</p> <p>Unit 2: Society, Demography and Ekistics</p>	<p>Knowledge regarding nature, scope and recent trends of Human Geography, evolution of humans, concept of race and ethnicity; description of major racial groups of the world, concept of Space, society and cultural regions (language and religion), concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world.</p> <p>Description about the evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies, human – environment relations with special reference to Arctic and hot desert regions, population growth and distribution, population composition; demographic transition model, Population–Resource regions and human, population and environment relations with special reference to Development– environment conflict. Also the concept of Social morphology, different rural house types in India, types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.</p>
<p>CC4 Cartograms, Survey and Thematic Mapping (Theory)</p>	<p>Theoretical knowledge about Cartograms and Thematic Maps, concept and utility of Isopleths and Choropleth, concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph would be provided to the students. The preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) and the basic concepts of surveying and survey equipments and the interpretation of Land use and land cover maps would be elucidated.</p>
<p>Cartograms, Survey and Thematic Mapping (Practical)</p>	<p>Practical aspect includes the diagrammatic representation of data like the Age-sex pyramid diagram, pie diagram, proportional circles, dots and spheres. Techniques for drawing of isolines and Choropleth mapping would be included. Field survey entailing Contouring by Dumpy Level and Prismatic Compass and the determination of Height of objects using Transit Theodolite would also be taught.</p>

Sem-II (General)

COURSE OUTCOME	
CC2 Climatology Soil, BioGeography and Surveying Unit 1: Climatology, Soil and BioGeography (Theory)	Students would gain knowledge about the elements of weather and climate, composition and layering of the atmosphere, horizontal and vertical distribution of temperature, forms of precipitation and types of rainfall, tropical and temperate cyclones and the climatic classification of Koppen. Initiation into the concept of soil, factors of soil formation, physical and chemical properties of soil, formation of Podzol and Laterite soils are enumerated. This unit would also consist of definition and of Biosphere and Bio-geography, meaning of Ecology, Ecosystem, Environment, Communities, Habitats, Ecotone and Biotopes and detailed description of Rainforest and Temperate Grassland Biomes.
Unit 2: Surveying and Levelling (Practical)	Practical aspect includes definition and classification of surveying, Plane Table survey by radiation method, traversing by Prismatic Compass and drawing of longitudinal profile by Dumpy Level.

Sem-IV (Honours)

COURSE OUTCOME

<p>CC8 Regional Planning and Development</p> <p>Unit 1: Regional Planning</p> <p>Unit 2: Regional Development</p>	<p>Description about the concept and classification of Regions, types of Planning; Principles and Techniques of Regional Planning its need and Multilevel Planning in India and the concepts of Metropolis, Metropolitan Areas and Metropolitan Region.</p> <p>The meaning of development, growth versus development, various models for Regional Development like the Growth Pole (Perroux) and Core Periphery (Hirschman) models, Model for Regional Development in India: Growth Foci (R.P.Misra) have been enumerated along with the concept of regional inequality and disparity. The concept, significance and the indicators of Human Development have been dealt with. The status of Regional Imbalances in India, its strategies with emphasis on NITI Aayog would be discussed.</p>
<p>CC 9 Economic Geography</p> <p>Unit 1: Concepts and Approaches</p> <p>Unit 2: Economic Activities</p>	<p>The meaning approaches and concepts in Economic Geography and factors influencing location of economic activity and forces of agglomeration would be described in this unit.</p> <p>This unit includes the description of the concept and classification of economic activities. The Location Theories of Von Thünen and Alfred Weber have been discussed and analysed. An insight into the functions of the International Trade Blocs: WTO and OPEC would also be provided.</p>
<p>CC 10 Environmental Geography</p> <p>Environmental Issues (Theoretical)</p> <p>Environmental</p>	<p>The students would be introduced to the concept of Environmental Studies, the historical changes in perception of Environment, the concept of Ecosystem, its structure and functions, environmental degradation and pollution, environmental issues related to agriculture and waste management. The concept and issues related to bio-diversity and the various environmental programs and policies on Forest and Wetland would also be touched upon.</p> <p>The practical part includes the preparation of questionnaire for perception survey on environmental problems, construction and interpretation of Environmental Impact Assessment: Leopold Matrix,</p>

Geography (Practical)	quality assessment of soil and interpretation of air quality.
SEC –2 Field Work (Practical)	The students during their field study tour would be trained to carry out a comprehensive fieldwork selecting a particular research problem and later on they are to write a report based on their findings using suitable methodology.

Sem-IV (General)

COURSE OUTCOME

<p>CC 1D Environmental Geography Environmental Issues (Theoretical)</p>	<p>The students would be introduced to the concept and approaches of Environmental Geography, the concept of Ecosystem, its structure and functions, human environment relationship in Mountain and Coastal Regions, air and water pollution. The concept and issues related to environmental programmes and policies would also be described as well as environmental movement like Chipko. The importance of wetlands and the idea of Ramsar sites in India have been elucidated.</p>
<p>Environmental Geography (Practical)</p>	<p>The practical part includes the preparation of questionnaire for perception survey on air pollution and health, quality assessment of soil and mapping of wetlands and forests in order to gain a practical insight into the environmental domain.</p>
<p>SEC –2 Regional Planning and Development</p>	<p>Description about the concept and classification of Regions and Regional Planning, types of Planning have been touched upon. The concept and the indicators of Human Development have been dealt with. The development of agriculture and industry in India since 1990s as well as DVC as part of the regional planning process in India has also been explained. The technique and the methodology of preparation of questionnaires on sanitation, health and waste management would be discussed.</p>

Sem-VI (Honours)

COURSE OUTCOME

<p>DSE 4 Soil and Bio Geography</p> <p>Unit: 1: Soil Geography</p> <p>Unit-2: Bio-Geography</p>	<p>Initiation into the concept of soil, factors of formation, idea of soil profile, physical and chemical properties of soil, types of soil and its classification and soil degradation and management.</p> <p>This unit consist of definition and scope of Bio-geography, meaning of Biosphere, Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes, Laws of Energy Exchange, Food Chain, Food Web and Energy Flow, Bio-Geo Chemical Cycles, factors of growth of plants, the concept and classification of Biomes and the looming threat to biodiversity.</p>
--	--

Sem-VI (General)

<p>COURSE OUTCOME</p>

DSE 1B Disaster Management	Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards have been provided. Some specific disasters like earthquake, landslide, cyclone and fire would be elaborately discussed.
Unit 1 Disaster Management (Theory)	
Unit:2 Disaster Management Project Work (Practical)	The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.
SEC 4 Rocks and Minerals and their Megascopic Identification (Practical)	The practical portion delves into providing hands on training to identify certain specified specimens of minerals and rocks with the help of certain inherent characteristics.

COURSE OUTCOME

GE 2 Human Geography	The students would gain knowledge about the concept of Human Geography, its definition, nature, sub fields and contemporary relevance. The concept of Space and Society, Cultural regions, Race and Religion would be elucidated. The growth, distribution and composition of population with reference to age, gender and literacy would be discussed.
----------------------	---

HOOGHLY WOMEN'S COLLEGE

DEPARTMENT OF GEOGRAPHY

PO and CO

2021-22

B.A./B.Sc. Honours in Geography (under **CBCS** curriculum notified by The University of Burdwan).

Programme Outcome (PO)

The Choice Based Credit System (CBCS) in Geography has been introduced from the academic session 2017-18. This entails a Bachelor of Arts (B.A.) / Bachelor of Science (B.Sc.) Honours and General Degree Programmes, spanning three years and encompassing six semesters. The envisioned Programme Outcome is enumerated as follows:

Geotectonics, Geomorphology, Climatology, Soil and Bio Geography and Environmental Geography

Knowledge regarding the origin of the Earth and the universe, their composition, tectonic evolution and mechanisms, geomorphic theories and processes, composition and nature of the atmosphere, wind circulation, atmospheric disturbance and various weather phenomena, climatic classification, concept of soil, soil forming processes, nature and types of soil, concepts related to ecosystem and various facets of the ecosystem as well as the anthropogenic impact on components of the ecosystem., burning environmental issues, the concept of Environmental Impact Assessment and matrices. Practical training through construction of matrix, interpretation of Air Quality Index, quality assessment of soil and perception survey.

Cartographic Techniques and Thematic Mapping

Practical knowledge and hands on training on the concept and types of Scale, projections and their uses, importance of survey, use of surveying instruments, surveying techniques, interpretation of geological maps, weather maps, topographical maps and creation of thematic maps.

Human Geography, Cultural Geography, Population and Settlement Geography

The nature, scope & approaches of Human Geography, society and its various facets, ideas of ecumene and ekistics, concept of culture with its dimensions, the dynamics of population, concept, nature and types of Rural & Urban settlements are imparted to the students to get an overview of the ever changing society, its nature as well as its fascinating components.

Statistical Methods in Geography

Theoretical as well as practical knowledge on geographical data collection, representation, statistical analysis and application.

Computer Basics and Application

The students would become familiar with MS- excel and learn the basics of statistical analysis and their graphical representation which are basic requirements in quantitative techniques in geographical studies.

Geography of India and West Bengal

An overview of India and the state of West Bengal with its dialectics have been provided as well as knowledge about some specific areas from West Bengal have also been highlighted.

Economic Geography

A geographical perspective on various economic activities such as agriculture, industry, transports and trade and the distribution of resources have been highlighted upon. Some of the location theories have also been enumerated.

Concept of Regional Planning and Development

An idea about Regional Planning and development, application, models, concept of regional inequality and disparity along with strategies for mitigation of regional imbalances with special reference to India have been provided.

Research Methodology and Field Work

The significance of research and its types, methodology followed in pursuit of research and the techniques of writing a research project have been discussed. The role and significance of field work, techniques and use of various tools and collection of samples have been provided through field study tour.

Remote Sensing and GIS

Theoretical knowledge regarding the concept of Remote Sensing, GIS and GNSS along with its practical counterpart wherein specific software has been used to provide hands on experience in various aspects of GIS like georeferencing, conversion of conventional maps into their digitized version and preparation of thematic maps in digital format.

Geographical Thought

The historical evolution and the growth of Geography as a separate discipline along with its different schools of thought and various approaches have been elucidated.

Disaster Management

Geography being a science harping upon environment and the effect of man on environment, it entails the concepts of disasters and hazards, their classification, responses and preparedness along with techniques of mapping hazards. Some important hazards have been studied with special emphasis on upon their vulnerability, consequences and management.

Course Outcome:

Sem I (Honours)

COURSE OUTCOME	
CC1 Geotectonics and Geomorphology Unit 1	Students would study about the evolution of the earth with reference to geological time scale, interior of the earth with special reference to seismology, concepts of isostasy and plate tectonics.
Unit 2	Weathering and mass wasting, Models of landscape evolution, theories of Slope Development, development of river network and landforms on uniclinal and folded structures, types of rocks and resultant landforms , Karst, Glacial and fluvio-glacial processes and landforms and Aeolian and fluvio-aeolian processes and landforms would be discussed.
CC2 Unit 1 Cartographical Techniques and Geological Map Study (Theory)	Theoretical knowledge about the classification and types of maps and scale, Coordinate Systems, Geoid and Spheroid, Map Projections, Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement, Topographical Maps and their interpretation, types of rocks and minerals and their characteristics, various concepts related to interpretation of geological maps would be imparted to the students.
Unit 2 (Practical)	The practical part would include construction of Scales, Projections, interpretation of Topographical Maps and Geological Maps.

Course Outcome:

Sem I (General)

COURSE OUTCOME	
CC1 Geotectonics, Geomorphology, Scale and Cartography	Students would study about weathering and resultant landforms, the interior of the earth with special reference to seismology, concept of plate tectonics, landform development in arid and glaciated regions, fluvial landforms, the Fluvial Cycle of Erosion by Davis and Penck and Hydrological Cycle and groundwater.
Unit 1 Geotectonics and Geomorphology (Theory)	
Unit 2 Scale and Cartography (Practical)	The practical part includes construction of scales, proportional diagrams like circles and squares, bar diagrams and age sex pyramid and hythergraph and climograph.

Sem-III (Honours)

COURSE OUTCOME	
CC 5 Climatology Unit 1: Elements of the Atmosphere Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification	<p>Description of the nature, composition and layering of the atmosphere, insolation, heat budget of the atmosphere, horizontal and vertical distribution of temperature, inversion of temperature and the concept of the Greenhouse effect and importance of ozone layer.</p> <p>Students would gain knowledge about the processes, mechanisms and types of condensation and precipitation, types, characteristics and modifications of air mass, fronts, weather stability and instability, atmospheric circulation, types of climate and climate change</p>
CC 6 Statistical Methods in Geography (Theory)	<p>The importance and significance of Statistics in Geography, types and collection of data, sampling and scales of measurement of data, frequency distribution, various aspects of statistical analysis like central tendency, measures of dispersion, correlation and regression and time series analysis would be discussed in detail.</p>
CC 6 Statistical Methods in Geography (Practical)	<p>Practical portion would include the construction of data matrix, Histograms and frequency curve, scatter diagram and Regression line and their corresponding interpretation.</p>
CC 7 Geography of India Unit 1: Geography of India	<p>A vivid description of the Geology and physiographic divisions, climate, soil, vegetation and population as well as distribution of population by race, caste, religion, language, tribes of India would be imparted. The agricultural regions, the Green revolution, mineral and power resources</p>

Sem-III(General)

COURSE OUTCOME	
CC3 Human Geography, Map Projection and Map Interpretation Unit 1 Human Geography (Theory)	Knowledge regarding nature, major subfields, contemporary trends of Human Geography, concept of space, society and cultural regions, race, language and religion and the lifestyles of the Eskimos would be elucidated. Description about the population growth and the Demographic Transition Theory, population migration types in India, world distribution and composition of population with special reference to age, gender and literacy. Also the concept of types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.
Unit 2: Map Projection and Map Interpretation	Practical aspect includes Simple Conical Projection with One Standard Parallel and Cylindrical Equal Area Projection, interpretation of topographical and weather maps.
SEC 1 Computer Basics and Computer Applications (Practical)	Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.

Sem-V (Honours)

COURSE OUTCOME	
CC11 Research Methodology and Field Work Unit 1: Research Methodology (Theoretical) Unit 2: Field Work FieldWork (Practical)	<p>The students would be initiated into the world of research through a theoretical knowledge of the meaning, types and significance of research, literature review in research, research problem, objectives and hypothesis building, research materials and methods and the techniques of writing scientific reports.</p> <p>Knowledge about fieldwork in Geographical studies, its significance, techniques and tools and collection of samples would be given to the students.</p> <p>The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.</p>
CC 12 Remote Sensing and GIS Unit 1: Remote Sensing Unit 2: GIS and GNSS	<p>The definition, concepts and principles of Remote Sensing (RS): Types of Air Photo, RS Satellites, sensors and platforms, EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their Applications with reference to IRS, Principles of False Colour Composites, Image Processing, Pre-processing; enhancement; classification and principles of interpretation of images would be vividly described and discussed.</p> <p>Knowledge about the definition and Components of Geographical Information System (GIS) and raster and Vector data structures, principles of preparing attribute tables and overlay analysis, principles of GNSS, applications of Geographical Information System in Flood Management and Urban Sprawl would be imparted to the students.</p>

<p>Remote Sensing and GIS (Practical)</p>	<p>Hands on training through a specified software would be provided for Georeferencing of scanned maps, preparation of FCC, preparation of LULC Map by Supervised Image Classification, digitisation of Point, Line and Polygon Features and Preparation of Thematic Map.</p>
<p>DSE-1 Cultural and Settlement Geography</p> <p>Unit 1: Cultural Geography</p>	<p>Description of the concept of Cultural geography, its definition, scope, content and development, concept of Cultural Hearth, Realm; Cultural Landscape, cultural innovation and diffusion, cultural segregation, cultural diversity, and acculturation and the world distribution and their corresponding characteristics of major races would be imparted to the students.</p>
<p>Unit 2: Settlement Geography</p>	<p>In this unit the scope and content of Settlement Geography, the definition and characteristics of Rural Settlement, the concept of site and situation of Rural Settlements, definition of Urban Settlements, Urban Outgrowth, Urban Agglomeration, Urban Morphology and some classical models and the Functional Classification of Cities would be discussed.</p>
<p>DSE-2 Population Geography</p> <p>Unit 1</p>	<p>The development of Population Geography, relation between Population Geography and Demography, determinants of population dynamics, some selected theories of population growth, distribution, density and growth of population in India since 1951 would be described in this unit.</p>
<p>Unit 2</p>	<p>This unit includes description of the concepts of population composition and characteristics, measures of fertility and mortality, population composition of India: rural and urban, occupational Structure as Per Census of India, migration: Theories, Causes and Types, concept of Human Development Index, population and development: population-resource regions, population policies in some selected countries: Sweden and China and contemporary issues in Population: health and unemployment.</p>

--	--

Sem-V (General)

COURSE OUTCOME	
<p>DSE 1A Economic Geography</p> <p>Unit: 1 Economic geography (Theory)</p> <p>Unit: 2 Field Work (Practical)</p> <p>SEC 3 Collection, Mapping and Interpretation of Climatic Data (Practical)</p>	<p>The students would be given an insight into the scope and content of Economic Geography, economic theories like that of Von Thunen and Weber, different types of primary activities like farming, fishing and mining activities and some secondary activities like cotton textile and petro chemical industries.</p> <p>The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.</p> <p>A practical insight would be provided to the students regarding various aspects of climatic data, its collection and interpretation through handling, reading and recording of some climatic data from instruments like thermometer, hygrometer and barometer; preparation of graphs like temperature-rainfall graphs, Climograph, Hythergraph, Ergograph, Windrose Diagram, drawing of Isotherms and Isohyets and the interpretation of Weather Maps.</p>

Sem-V (General) (GE)

COURSE OUTCOME

GE 1 Physical Geography	The students would be given an insight into the definition and scope of Physical Geography, its various facets like the atmosphere and the heat balance, winds, monsoon and Koppen's climatic classification; the lithosphere and the internal structure of the Earth based on seismological evidence, Plate Tectonics and its associated features; the hydrosphere and the hydrological cycle, bottom relief features of the Atlantic Ocean, concept of tides and ocean currents of the Atlantic Ocean. They would also gain knowledge about the fluvial cycle of erosion with special emphasis on the theories of Davis and Penck.
-------------------------------	--

Sem-II (Honours)

COURSE OUTCOME	
<p>CC3 Human Geography</p> <p>Unit 1: Nature and Principles</p> <p>Unit 2: Society, Demography and Ekistics</p>	<p>Knowledge regarding nature, scope and recent trends of Human Geography, evolution of humans, concept of race and ethnicity; description of major racial groups of the world, concept of Space, society and cultural regions (language and religion), concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world.</p> <p>Description about the evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies, human – environment relations with special reference to Arctic and hot desert regions, population growth and distribution, population composition; demographic transition model, Population–Resource regions and human, population and environment relations with special reference to Development– environment conflict. Also the concept of Social morphology, different rural house types in India, types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.</p>
<p>CC4 Cartograms, Survey and Thematic Mapping (Theory)</p>	<p>Theoretical knowledge about Cartograms and Thematic Maps, concept and utility of Isopleths and Choropleth, concept, utility, and interpretation of :Climograph, Hythergraph and Ergograph would be provided to the students. The preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) and the basic concepts of surveying and survey equipments and the interpretation of Land use and land cover maps would be elucidated.</p>
<p>Cartograms, Survey and Thematic</p>	<p>Practical aspect includes the diagrammatic representation of data like the Age-sex pyramid diagram, pie diagram, proportional circles, dots</p>

Mapping (Practical)	and spheres. Techniques for drawing of isolines and Choropleth mapping would be included. Field survey entailing Contouring by Dumpy Level and Prismatic Compass and the determination of Height of objects using Transit Theodolite would also be taught.
---------------------	--

Sem-II (General)

COURSE OUTCOME	
CC2 Climatology Soil, BioGeography and Surveying Unit 1: Climatology, Soil and BioGeography (Theory)	Students would gain knowledge about the elements of weather and climate, composition and layering of the atmosphere, horizontal and vertical distribution of temperature, forms of precipitation and types of rainfall, tropical and temperate cyclones and the climatic classification of Koppen..Initiation into the concept of soil, factors of soil formation, physical and chemical properties of soil, formation of Podzol and Laterite soils are enumerated. This unit would also consist of definition and of Biosphere and Bio-geography, meaning of Ecology, Ecosystem, Environment, Communities, Habitats, Ecotone and Biotopes and detailed description of Rainforest and Temperate Grassland Biomes.
Unit 2: Surveying and Levelling (Practical)	Practical aspect includes definition and classification of surveying, Plane Table survey by radiation method, traversing by Prismatic Compass and drawing of longitudinal profile by Dumpy Level.

Sem-IV (Honours)

COURSE OUTCOME	
<p>CC8 Regional Planning and Development</p> <p>Unit 1: Regional Planning</p> <p>Unit 2: Regional Development</p>	<p>Description about the concept and classification of Regions, types of Planning; Principles and Techniques of Regional Planning its need and Multilevel Planning in India and the concepts of Metropolis, Metropolitan Areas and Metropolitan Region.</p> <p>The meaning of development, growth versus development, various models for Regional Development like the Growth Pole (Perroux) and Core Periphery (Hirschman) models, Model for Regional Development in India: Growth Foci (R.P.Misra) have been enumerated along with the concept of regional inequality and disparity. The concept, significance and the indicators of Human Development have been dealt with. The status of Regional Imbalances in India, its strategies with emphasis on NITI Aayog would be discussed.</p>
<p>CC 9 Economic Geography</p> <p>Unit 1: Concepts and Approaches</p> <p>Unit 2: Economic Activities</p>	<p>The meaning approaches and concepts in Economic Geography and factors influencing location of economic activity and forces of agglomeration would be described in this unit.</p> <p>This unit includes the description of the concept and classification of economic activities. The Location Theories of Von Thünen and Alfred Weber have been discussed and analysed. An insight into the functions of the International Trade Blocs: WTO and OPEC would also be provided.</p>
<p>CC 10 Environmental Geography</p> <p>Environmental Issues (Theoretical)</p>	<p>The students would be introduced to the concept of Environmental Studies, the historical changes in perception of Environment, the concept of Ecosystem, its structure and functions, environmental degradation and pollution, environmental issues related to agriculture and waste management. The concept and issues related to bio-diversity and the various environmental programs and policies on Forest and</p>

<p>Environmental Geography (Practical)</p>	<p>Wetland would also be touched upon.</p> <p>The practical part includes the preparation of questionnaire for perception survey on environmental problems, construction and interpretation of Environmental Impact Assessment: Leopold Matrix, quality assessment of soil and interpretation of air quality.</p>
<p>SEC –2 Field Work (Practical)</p>	<p>The students during their field study tour would be trained to carry out a comprehensive fieldwork selecting a particular research problem and later on they are to write a report based on their findings using suitable methodology.</p>

Sem-IV (General)

COURSE OUTCOME	
CC 1D Environmental Geography Environmental Issues (Theoretical)	The students would be introduced to the concept and approaches of Environmental Geography, the concept of Ecosystem, its structure and functions, human environment relationship in Mountain and Coastal Regions, air and water pollution. The concept and issues related to environmental programmes and policies would also be described as well as environmental movement like Chipko. The importance of wetlands and the idea of Ramsar sites in India have been elucidated.
Environmental Geography (Practical)	The practical part includes the preparation of questionnaire for perception survey on air pollution and health, quality assessment of soil and mapping of wetlands and forests in order to gain a practical insight into the environmental domain.
SEC –2 Regional Planning and Development	Description about the concept and classification of Regions and Regional Planning, types of Planning have been touched upon. The concept and the indicators of Human Development have been dealt with. The development of agriculture and industry in India since 1990s as well as DVC as part of the regional planning process in India has also been explained. The technique and the methodology of preparation of questionnaires on sanitation, health and waste management would be discussed.

Sem-VI (Honours)

COURSE OUTCOME	
<p>CC 13 Evolution of Geographical Thought</p> <p>Unit: 1</p> <p>Unit: 2</p>	<p>Definition, scope and content of Geography, development of Geography in ancient and medieval period, knowledge about Geography in the Age of Explorations, characteristics of Classical Geography and the concept of Quantitative Revolution would be elucidated in this unit.</p> <p>Various Schools of Thought like the German, the French and the American as also the Indian Contribution to Geography, the concepts of Determinism, Possibilism and Neo-Determinism, the approaches to the study of Geography all would be elaborately described in Unit 2.</p>
<p>CC 14 Disaster Management</p> <p>Unit 1 (Theory)</p> <p>Unit:2(Theory)</p> <p>Disaster Management Project Work (Practical)</p>	<p>Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards would be provided.</p> <p>Some specific disasters like earthquake, landslide, cyclone and fire would be discussed.</p> <p>The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.</p>
<p>DSE 3 Resource Geography</p> <p>Unit: 1</p>	<p>The students would be given an insight into the concept, classification, importance of Resource Geography and its relation with other sub-discipline, concept of resource, the Functional Theory of Resource, problems of resource depletion and conservation of resource and the concept of 'Limits to Growth'.</p>

Sem-VI (General)

COURSE OUTCOME	
DSE 1B Disaster Management Unit 1 Disaster Management (Theory)	Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards have been provided. Some specific disasters like earthquake, landslide, cyclone and fire would be elaborately discussed.
Unit:2 Disaster Management Project Work (Practical)	The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.
SEC 4 Rocks and Minerals and their Megascopic Identification (Practical)	The practical portion delves into providing hands on training to identify certain specified specimens of minerals and rocks with the help of certain inherent characteristics.

Sem-VI (General) (GE)

COURSE OUTCOME	
GE 2 Human Geography	The students would gain knowledge about the concept of Human Geography, its definition, nature, sub fields and contemporary relevance. The concept of Space and Society, Cultural regions, Race and Religion would be elucidated. The growth, distribution and composition of population with reference to age, gender and literacy would be discussed.

HOOGHLY WOMEN'S COLLEGE

DEPARTMENT OF GEOGRAPHY

PO and CO

2022-23

B.A./B.Sc. Honours in Geography (under **CBCS** curriculum notified by The University of Burdwan).

Programme Outcome (PO)

The Choice Based Credit System (CBCS) in Geography has been introduced from the academic session 2017-18. This entails a Bachelor of Arts (B.A.) / Bachelor of Science (B.Sc.) Honours and General Degree Programmes, spanning three years and encompassing six semesters. The envisioned Programme Outcome is enumerated as follows:

Geotectonics, Geomorphology, Climatology, Soil and Bio Geography and Environmental Geography

Knowledge regarding the origin of the Earth and the universe, their composition, tectonic evolution and mechanisms, geomorphic theories and processes, composition and nature of the atmosphere, wind circulation, atmospheric disturbance and various weather phenomena, climatic classification, concept of soil, soil forming processes, nature and types of soil, concepts related to ecosystem and various facets of the ecosystem as well as the anthropogenic impact on components of the ecosystem., burning environmental issues, the concept of Environmental Impact Assessment and matrices. Practical training through construction of matrix, interpretation of Air Quality Index, quality assessment of soil and perception survey.

Cartographic Techniques and Thematic Mapping

Practical knowledge and hands on training on the concept and types of Scale, projections and their uses, importance of survey, use of surveying instruments, surveying techniques, interpretation of geological maps, weather maps, topographical maps and creation of thematic maps.

Human Geography, Cultural Geography, Population and Settlement Geography

The nature, scope & approaches of Human Geography, society and its various facets, ideas of ecumene and ekistics, concept of culture with its dimensions, the dynamics of population, concept, nature and types of Rural & Urban settlements are imparted to the students to get an overview of the ever changing society, its nature as well as its fascinating components.

Statistical Methods in Geography

Theoretical as well as practical knowledge on geographical data collection, representation, statistical analysis and application.

Computer Basics and Application

The students would become familiar with MS- excel and learn the basics of statistical analysis and their graphical representation which are basic requirements in quantitative techniques in geographical studies.

Geography of India and West Bengal

An overview of India and the state of West Bengal with its dialectics have been provided as well as knowledge about some specific areas from West Bengal have also been highlighted.

Economic Geography

A geographical perspective on various economic activities such as agriculture, industry, transports and trade and the distribution of resources have been highlighted upon. Some of the location theories have also been enumerated.

Concept of Regional Planning and Development

An idea about Regional Planning and development, application, models, concept of regional inequality and disparity along with strategies for mitigation of regional imbalances with special reference to India have been provided.

Research Methodology and Field Work

The significance of research and its types, methodology followed in pursuit of research and the techniques of writing a research project have been discussed. The role and significance of field work, techniques and use of various tools and collection of samples have been provided through field study tour.

Remote Sensing and GIS

Theoretical knowledge regarding the concept of Remote Sensing, GIS and GNSS along with its practical counterpart wherein specific software has been used to provide hands on experience in various aspects of GIS like georeferencing, conversion of conventional maps into their digitized version and preparation of thematic maps in digital format.

Geographical Thought

The historical evolution and the growth of Geography as a separate discipline along with its different schools of thought and various approaches have been elucidated.

Disaster Management

Geography being a science harping upon environment and the effect of man on environment, it entails the concepts of disasters and hazards, their classification, responses and preparedness along with techniques of mapping hazards. Some important hazards have been studied with special emphasis on upon their vulnerability, consequences and management.

Course Outcome:

Sem I (Honours)

COURSE OUTCOME	
<p>CC1 Geotectonics and Geomorphology Unit 1</p>	<p>Students would study about the evolution of the earth with reference to geological time scale, interior of the earth with special reference to seismology, concepts of isostasy and plate tectonics.</p>
<p>Unit 2</p>	<p>Weathering and mass wasting, Models of landscape evolution, theories of Slope Development, development of river network and landforms on uniclinal and folded structures, types of rocks and resultant landforms , Karst, Glacial and fluvio-glacial processes and landforms and Aeolian and fluvio-aeolian processes and landforms would be discussed.</p>
<p>CC2 Unit 1 Cartographical Techniques and Geological Map Study (Theory)</p>	<p>Theoretical knowledge about the classification and types of maps and scale, Coordinate Systems, Geoid and Spheroid, Map Projections, Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement, Topographical Maps and their interpretation, types of rocks and minerals and their characteristics, various concepts related to interpretation of geological maps would be imparted to the students.</p>
<p>Unit 2 (Practical)</p>	<p>The practical part would include construction of Scales, Projections, interpretation of Topographical Maps and Geological Maps.</p>

Course Outcome:

Sem I (General)

COURSE OUTCOME	
CC1 Geotectonics, Geomorphology, Scale and Cartography	Students would study about weathering and resultant landforms, the interior of the earth with special reference to seismology, concept of plate tectonics, landform development in arid and glaciated regions, fluvial landforms, the Fluvial Cycle of Erosion by Davis and Penck and Hydrological Cycle and groundwater.
Unit 1 Geotectonics and Geomorphology (Theory)	
Unit 2 Scale and Cartography (Practical)	The practical part includes construction of scales, proportional diagrams like circles and squares, bar diagrams and age sex pyramid and hythergraph and climograph.

Sem-III (Honours)

COURSE OUTCOME	
CC 5 Climatology Unit 1: Elements of the Atmosphere	Description of the nature, composition and layering of the atmosphere, insolation, heat budget of the atmosphere, horizontal and vertical distribution of temperature, inversion of temperature and the concept of the Greenhouse effect and importance of ozone layer.
Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification	Students would gain knowledge about the processes, mechanisms and types of condensation and precipitation, types, characteristics and modifications of air mass, fronts, weather stability and instability, atmospheric circulation, types of climate and climate change
CC 6 Statistical Methods in Geography (Theory)	The importance and significance of Statistics in Geography, types and collection of data, sampling and scales of measurement of data, frequency distribution, various aspects of statistical analysis like central tendency, measures of dispersion, correlation and regression and time series analysis would be discussed in detail.
CC 6 Statistical Methods in Geography (Practical)	Practical portion would include the construction of data matrix, Histograms and frequency curve, scatter diagram and Regression line and their corresponding interpretation.

<p>CC 7 Geography of India</p> <p>Unit 1: Geography of India</p> <p>Unit 2: Geography of West Bengal</p> <p>SEC 1 Computer Basics and Computer Applications (Practical)</p>	<p>A vivid description of the Geology and physiographic divisions, climate, soil, vegetation and population as well as distribution of population by race, caste, religion, language, tribes of India would be imparted. The agricultural regions, the Green revolution, mineral and power resources and industrial development India's since independence would also be dealt with. The idea of regionalisation of India with emphasis of the views of Spate and Bhatt would also be discussed.</p> <p>An overview of the state of West Bengal entailing the physiographic divisions, forest and water resources, population and human development, its resources including mining, agriculture and industries have been provided. Special emphasis on regional Development of Darjeeling Hills and Sundarban would be given.</p> <p>Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.</p>
---	---

Sem-III(General)

COURSE OUTCOME	
CC3 Human Geography, Map Projection and Map Interpretation Unit 1 Human Geography (Theory)	Knowledge regarding nature, major subfields, contemporary trends of Human Geography, concept of space, society and cultural regions, race, language and religion and the lifestyles of the Eskimos would be elucidated. Description about the population growth and the Demographic Transition Theory, population migration types in India, world distribution and composition of population with special reference to age, gender and literacy. Also the concept of types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.
Unit 2: Map Projection and Map Interpretation	Practical aspect includes Simple Conical Projection with One Standard Parallel and Cylindrical Equal Area Projection, interpretation of topographical and weather maps.
SEC 1 Computer Basics and Computer Applications (Practical)	Basic knowledge about the Numbering System, data computation, storing and formatting in Spreadsheets: computation of Rank, Mean, Median, Mode, Standard Deviation, Moving Averages, Derivation of Correlation, Covariance And regression, preparation of Annotated Diagrams and its interpretation: Scatter diagram and Histogram using MS Excel and techniques of internet surfing and extraction of information thereafter would be provided.

--	--

Sem-V (Honours)

COURSE OUTCOME	
<p>CC11 Research Methodology and Field Work</p> <p>Unit 1: Research Methodology (Theoretical)</p> <p>Unit 2: Field Work</p> <p>FieldWork (Practical)</p>	<p>The students would be initiated into the world of research through a theoretical knowledge of the meaning, types and significance of research, literature review in research, research problem, objectives and hypothesis building, research materials and methods and the techniques of writing scientific reports.</p> <p>Knowledge about fieldwork in Geographical studies, its significance, techniques and tools and collection of samples would be given to the students.</p> <p>The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.</p>
<p>CC 12 Remote Sensing and GIS</p> <p>Unit 1: Remote</p>	<p>The definition, concepts and principles of Remote Sensing (RS): Types of Air Photo, RS Satellites, sensors and platforms, EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions and their</p>

Sensing	Applications with reference to IRS, Principles of False Colour Composites, Image Processing, Pre-processing; enhancement; classification and principles of interpretation of images would be vividly described and discussed.
Unit 2: GIS and GNSS	Knowledge about the definition and Components of Geographical Information System (GIS) and raster and Vector data structures, principles of preparing attribute tables and overlay analysis, principles of GNSS, applications of Geographical Information System in Flood Management and Urban Sprawl would be imparted to the students.
Remote Sensing and GIS (Practical)	Hands on training through a specified software would be provided for Georeferencing of scanned maps, preparation of FCC, preparation of LULC Map by Supervised Image Classification, digitisation of Point, Line and Polygon Features and Preparation of Thematic Map.
DSE-1 Cultural and Settlement Geography Unit 1: Cultural Geography	Description of the concept of Cultural geography, its definition, scope, content and development, concept of Cultural Hearth, Realm; Cultural Landscape, cultural innovation and diffusion, cultural segregation, cultural diversity, and acculturation and the world distribution and their corresponding characteristics of major races would be imparted to the students.
Unit 2: Settlement Geography	In this unit the scope and content of Settlement Geography, the definition and characteristics of Rural Settlement, the concept of site and situation of Rural Settlements, definition of Urban Settlements, Urban Outgrowth, Urban Agglomeration, Urban Morphology and some classical models and the Functional Classification of Cities would be discussed.
DSE-2 Population	The development of Population Geography, relation between Population Geography and Demography, determinants of population dynamics, some selected theories of population growth, distribution, density and

Geography Unit 1	growth of population in India since 1951 would be described in this unit.
Unit 2	This unit includes description of the concepts of population composition and characteristics, measures of fertility and mortality, population composition of India: rural and urban, occupational Structure as Per Census of India, migration: Theories, Causes and Types, concept of Human Development Index, population and development: population-resource regions, population policies in some selected countries: Sweden and China and contemporary issues in Population: health and unemployment.

Sem-V (General)

COURSE OUTCOME	
DSE 1A Economic Geography Unit: 1 Economic geography (Theory)	The students would be given an insight into the scope and content of Economic Geography, economic theories like that of Von Thunen and Weber, different types of primary activities like farming, fishing and mining activities and some secondary activities like cotton textile and petro chemical industries.
Unit: 2 Field Work (Practical)	The students during their field study tour would be trained to conduct a field survey and later on to prepare a field report based on their findings collected from field work.
SEC 3 Collection, Mapping and Interpretation of Climatic Data (Practical)	A practical insight would be provided to the students regarding various aspects of climatic data, its collection and interpretation through handling, reading and recording of some climatic data from instruments like thermometer, hygrometer and barometer; preparation of graphs like temperature-rainfall graphs, Climograph, Hythergraph, Ergograph, Windrose Diagram, drawing of Isotherms and Isohyets and the interpretation of Weather Maps.

Sem-V (General) (GE)

COURSE OUTCOME

<p>GE 1 Geography</p> <p>Physical</p>	<p>The students would be given an insight into the definition and scope of Physical Geography, its various facets like the atmosphere and the heat balance, winds, monsoon and Koppen's climatic classification; the lithosphere and the internal structure of the Earth based on seismological evidence, Plate Tectonics and its associated features; the hydrosphere and the hydrological cycle, bottom relief features of the Atlantic Ocean, concept of tides and ocean currents of the Atlantic Ocean. They would also gain knowledge about the fluvial cycle of erosion with special emphasis on the theories of Davis and Penck.</p>
---	---

Sem-II (Honours)

COURSE OUTCOME	
CC3 Human Geography Unit 1: Nature and Principles Unit 2: Society, Demography and Ekistics	<p>Knowledge regarding nature, scope and recent trends of Human Geography, evolution of humans, concept of race and ethnicity; description of major racial groups of the world, concept of Space, society and cultural regions (language and religion), concept of Culture, Cultural Diffusion, Convergence, Cultural Realms of the world.</p> <p>Description about the evolution of human societies: Hunting and gathering, Pastoral nomadism, Subsistence farming, Industrial and urban societies, human – environment relations with special reference to Arctic and hot desert regions, population growth and distribution, population composition; demographic transition model, Population–Resource regions and human, population and environment relations with special reference to Development– environment conflict. Also the concept of Social morphology, different rural house types in India, types and patterns of rural settlements as well as the Functional Classification of urban settlements would be included in this unit.</p>
CC4 Cartograms, Survey and	Theoretical knowledge about Cartograms and Thematic Maps, concept and utility of Isopleths and Choropleth, concept, utility, and

Thematic Mapping (Theory)	interpretation of :Climograph, Hythergraph and Ergograph would be provided to the students. The preparation and interpretation of demographic charts and diagrams (Age-Sex Pyramid) and the basic concepts of surveying and survey equipments and the interpretation of Land use and land cover maps would be elucidated.
Cartograms, Survey and Thematic Mapping (Practical)	Practical aspect includes the diagrammatic representation of data like the Age-sex pyramid diagram, pie diagram, proportional circles, dots and spheres. Techniques for drawing of isolines and Choropleth mapping would be included. Field survey entailing Contouring by Dumpy Level and Prismatic Compass and the determination of Height of objects using Transit Theodolite would also be taught.

Sem-II (General)

COURSE OUTCOME	
CC2 Climatology Soil, BioGeography and Surveying Unit 1: Climatology, Soil and BioGeography (Theory)	Students would gain knowledge about the elements of weather and climate, composition and layering of the atmosphere, horizontal and vertical distribution of temperature, forms of precipitation and types of rainfall, tropical and temperate cyclones and the climatic classification of Koppen..Initiation into the concept of soil, factors of soil formation, physical and chemical properties of soil, formation of Podzol and Laterite soils are enumerated. This unit would also consist of definition and of Biosphere and Bio-geography, meaning of Ecology, Ecosystem, Environment, Communities, Habitats, Ecotone and Biotopes and detailed description of Rainforest and Temperate Grassland Biomes.
Unit 2: Surveying and Levelling (Practical)	Practical aspect includes definition and classification of surveying, Plane Table survey by radiation method, traversing by Prismatic Compass and drawing of longitudinal profile by Dumpy Level.

Sem-IV (Honours)

COURSE OUTCOME

CC8 Regional Planning and Development Unit 1: Regional Planning Unit 2: Regional Development	<p>Description about the concept and classification of Regions, types of Planning; Principles and Techniques of Regional Planning its need and Multilevel Planning in India and the concepts of Metropolis, Metropolitan Areas and Metropolitan Region.</p> <p>The meaning of development, growth versus development, various models for Regional Development like the Growth Pole (Perroux) and Core Periphery (Hirschman) models, Model for Regional Development in India: Growth Foci (R.P.Misra) have been enumerated along with the concept of regional inequality and disparity. The concept, significance and the indicators of Human Development have been dealt with. The status of Regional Imbalances in India, its strategies with emphasis on NITI Aayog would be discussed.</p>
CC 9 Economic Geography Unit 1: Concepts and Approaches Unit 2: Economic	<p>The meaning approaches and concepts in Economic Geography and factors influencing location of economic activity and forces of agglomeration would be described in this unit.</p> <p>This unit includes the description of the concept and classification of</p>

Activities	economic activities. The Location Theories of Von Thünen and Alfred Weber have been discussed and analysed. An insight into the functions of the International Trade Blocs: WTO and OPEC would also be provided.
CC 10 Environmental Geography Environmental Issues (Theoretical)	The students would be introduced to the concept of Environmental Studies, the historical changes in perception of Environment, the concept of Ecosystem, its structure and functions, environmental degradation and pollution, environmental issues related to agriculture and waste management. The concept and issues related to bio-diversity and the various environmental programs and policies on Forest and Wetland would also be touched upon.
Environmental Geography (Practical)	The practical part includes the preparation of questionnaire for perception survey on environmental problems, construction and interpretation of Environmental Impact Assessment: Leopold Matrix, quality assessment of soil and interpretation of air quality.
SEC –2 Field Work (Practical)	The students during their field study tour would be trained to carry out a comprehensive fieldwork selecting a particular research problem and later on they are to write a report based on their findings using suitable methodology.

Sem-IV (General)

COURSE OUTCOME	
CC 1D Environmental Geography Environmental Issues (Theoretical)	The students would be introduced to the concept and approaches of Environmental Geography, the concept of Ecosystem, its structure and functions, human environment relationship in Mountain and Coastal Regions, air and water pollution. The concept and issues related to environmental programmes and policies would also be described as well as environmental movement like Chipko. The importance of wetlands and the idea of Ramsar sites in India have been elucidated.
Environmental Geography (Practical)	The practical part includes the preparation of questionnaire for perception survey on air pollution and health, quality assessment of soil and mapping of wetlands and forests in order to gain a practical insight into the environmental domain.
SEC –2 Regional Planning and Development	Description about the concept and classification of Regions and Regional Planning, types of Planning have been touched upon. The concept and the indicators of Human Development have been dealt with. The development of agriculture and industry in India since 1990s as well as DVC as part of the regional planning process in India has also been explained. The technique and the methodology of preparation

	of questionnaires on sanitation, health and waste management would be discussed.
--	--

Sem-VI (Honours)

COURSE OUTCOME	
CC 13 Evolution of Geographical Thought Unit: 1 Unit: 2	Definition, scope and content of Geography, development of Geography in ancient and medieval period, knowledge about Geography in the Age of Explorations, characteristics of Classical Geography and the concept of Quantitative Revolution would be elucidated in this unit. Various Schools of Thought like the German, the French and the American as also the Indian Contribution to Geography, the concepts of Determinism, Possibilism and Neo-Determinism, the approaches to the study of Geography all would be elaborately described in Unit 2.
CC 14 Disaster Management Unit 1 (Theory) Unit:2(Theory)	Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards would be provided. Some specific disasters like earthquake, landslide, cyclone and fire would be discussed.

<p>Disaster Management Project Work (Practical)</p>	<p>The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.</p>
<p>DSE 3 Resource Geography Unit: 1 Unit: 2</p>	<p>The students would be given an insight into the concept, classification, importance of Resource Geography and its relation with other sub-discipline, concept of resource, the Functional Theory of Resource, problems of resource depletion and conservation of resource and the concept of 'Limits to Growth'.</p> <p>The distribution and utilisation of mineral, energy and power resources in India, the contemporary energy crisis and sustainable resource development constitute Unit 2.</p>
<p>DSE 4 Soil and Bio Geography Unit: 1: Soil Geography Unit-2: Bio-Geography</p>	<p>Initiation into the concept of soil, factors of formation, idea of soil profile, physical and chemical properties of soil, types of soil and its classification and soil degradation and management.</p> <p>This unit consist of definition and scope of Bio-geography, meaning of Biosphere, Ecology, Ecosystem, Environment, Communities, Habitats, Niche, Ecotone and Biotopes, Laws of Energy Exchange, Food Chain, Food Web and Energy Flow, Bio-Geo Chemical Cycles, factors of growth of plants, the concept and classification of Biomes and the looming threat to biodiversity.</p>

Sem-VI (General)

COURSE OUTCOME	
DSE 1B Disaster Management Unit 1 Disaster Management (Theory)	Knowledge about Hazards and Disasters, approaches to hazard study, responses to hazards and mapping of hazards have been provided. Some specific disasters like earthquake, landslide, cyclone and fire would be elaborately discussed.
Unit:2 Disaster Management Project Work (Practical)	The students would be trained to prepare a project report based on specified disasters incorporating preparedness, mitigation and management.
SEC 4 Rocks and Minerals and their Megascopic Identification (Practical)	The practical portion delves into providing hands on training to identify certain specified specimens of minerals and rocks with the help of certain inherent characteristics.

Sem-VI (General) (GE)

COURSE OUTCOME	
GE 2 Human Geography	The students would gain knowledge about the concept of Human Geography, its definition, nature, sub fields and contemporary relevance. The concept of Space and Society, Cultural regions, Race and Religion would be elucidated. The growth, distribution and composition of population with reference to age, gender and literacy would be discussed.