Programme Specific & Learning Outcomes: B.A./B.Sc. 3-Year (Hons.) Degree Course Programme & B.A./B.Sc. 3-Year (General) Degree Course Programme under Semester with Choice Based Credit System w.e.f. 2017-2018 in GEOGRAPHY

B.A./B.Sc. 3-Year (HONS.) Degree Course Programme under Semester with Choice Based Credit System: Programme Specific Learning Outcomes

The programme learning outcomes relating to B.A./B.Sc. (Hons.) Programme in geography:

1. Demonstrating the understanding of basic concepts in geography.
2. Demonstrating the coherent and systematic knowledge in the discipline of geography to deal with current issues and their solution.
3. Display an ability to read and understand maps and topographic sheets to look at the various aspects on the space.
4. Cultivate ability to evaluate critically the wider chain of network of spatial aspects from global to local level on various time scales as well.
5. Recognize the skill development in Geographical studies programme as part of career avenues in various fields like teaching, research and administration.

It is also suggested that after the completion of B.A./B.Sc. (Hons.) Programme, students should be able to demonstrate the knowledge obtained in such way so that they can explore the employability options and service to the society.

Course Learning Outcomes: Syllabus For B.A. /B.Sc. 3-Year (Hons.) Degree Course Programme under Semester with Choice Based Credit System

SEMESTER-I

CC1 - Geotectonics and Geomorphology

Unit-I

1. Students will understand geological and biological evolution with reference to geological time scales.
2. Understand the interior of the earth with special reference to seismology.
3. Acquire knowledge about the Concept of Isostasy and theories of isostasy.
4. Gather knowledge about the concepts, processes, and types of Plate Tectonics and resulting landforms.

Unit-II

1. Know about different degradational processes mainly weathering, mass wasting and resultant landforms.
2. Understand about different Models of landscape evolution.
3. Acquire knowledge of Slope Development and its theory.
4. Know about the development of river networks and landforms on uniclinal and folded structures.
5. Understand the types of rocks, mineralogical composition of igneous rocks and landforms

6. Acquire deep knowledge about Karst, Glacial and fluvioglacial, Aeolian and fluvial-aeolian processes landforms

CC2 (Theory) – CartographicTechniques and Geological map study

Here are some potential learning outcomes from this course:

1. Understand different kinds of maps and recognize basic components of map map.
2. Comprehend the concept of scales and learn about different types of scale.
3. Understand the coordinate system and learn about the Geoid and Spheroid shape of the earth.
4. Learning about properties, characteristics and uses of map projection.
5. Learn about the Concept and Significance of UTM Projection.
6. Understand the Concept of Generating Globe, Grids: Angular and Linear Systems of Measurement.
7. Develop proficiency in reading and interpreting topographic maps. Gain knowledge about the reference scheme of Old and Open series Topographical map.
8. Delineate the Drainage Basin from Survey of India Topographical Map and gain knowledge about Relief, Slope and Stream Order.
9. Develop the skills about different types of rocks and minerals.
10. Analyse and interpret geological maps and their various components.

CC2 (Practical) – Cartographic Techniques and Geological map study

1. Comprehend the concept of different types of scales.
2. Learning about properties, characteristics and uses of map projections and their construction.
3. Able to construct and morphometric analysis of the topographical map and identify stream ordering on a drainage basin.
4. Analyse and interpret geological maps.

SEMESTER-II

CC3 (Theory) – Human Geography

Unit 1: Nature and Principles

Here are some potential learning outcomes from this course:

1. Learn about Nature, scope and recent trends of Human Geography.
2. Gain knowledge about the Evolution of human society, race and ethnicity.
3. Understand about Space, society and cultural regions.
4. Concern about Culture, Cultural Diffusion, Convergence, Cultural Realms of the world.

Unit 2: Society, Demography and Ekistics

1. Learn about evolution of human societies.
2. Understand the human-environment relations with special reference to Arctic and hot desert regions.
3. Appreciate determinants and dynamics of population growth, distribution, composition and learn about demographic transition model.

4. Understand the concept of Population–Resource regions.
5. Acquire knowledge about Human, population and environment relations
6. Analyze the social morphology and rural house types in India.
7. Concern about the types and patterns of rural settlements.
8. Learn about Demographic Transition model, migration.
9. Understand the concept of Functional Classification of urban settlements.

CC4 (Theory) – Cartograms, Survey and Thematic Mapping

1. This course might help to understand the concept of scales and representation of data through cartograms as well as can get knowledge about different types of map and their utilities.
2. Will help to understand types of maps according to needs and types of data.
3. Develop skills in preparing and interpreting Climograph, Hythergraph and Ergograph as well as different elements of weather and climate.
4. Can get idea about age wise distribution of male-female population as well as demography.
5. It can help to acquire knowledge about bearing.
6. This can help to get the knowledge about survey and different types of instruments like Abney level, Clinometer which will help them in ground level survey.
7. This will also help to know about different types of other field survey instruments like Prismatic Compass, Dumpy level, Transit Theodolite etc.
8. This can enable to classify land on the basis of uses and its cover as well as planning purposes.

CC-4 (Practical) - Cartograms, Survey and Thematic Mapping

1. They will be able to prepare different types of diagrams according to data types and according to its output.
2. Representation of data will help to understand the data easily as well as for the interpretation of the data.
3. Will help to understand undulation of the surface and to understand direction, angles of the object.
4. Can find out the height of object on the field.

SEMESTER-III

CC 5 (Theory) – Climatology

Unit 1: Elements of the Atmosphere

1. Nature, composition and layering of the atmosphere,
2. To acquire knowlwdge about Insolation: controlling factors. Heat budget of the atmosphere.

3. To highlight the Temperature: horizontal and vertical distribution. Inversion of temperature: types, causes and consequences.
4. To correlate the Greenhouse effect and importance of ozone layer

Unit 2: Atmospheric Phenomena, Climate Change and Climatic Classification

1. To learn about Condensation: Processes and forms. Mechanism of precipitation: Bergeron-Findeisen theory, collision and coalescence. Forms of precipitation.
2. To understand Air mass: Typology, origin, characteristics and modification.
3. Learn about Fronts, frontogenesis and frontolysis.
4. To understand the comparison between Weather: stability and instability; and barotropic and baroclinic conditions.
5. Aquire the knowledge of Circulation in the atmosphere: Planetary winds, jet stream and monsoons
6. To learn about Tropical and mid-latitude cyclones
7. To learn about Evidences and causes of climate change
8. To realize and applied of Climatic classification after Köppen, Thornthwaite (1948)

CC 6 (Theory) – Statistical Methods in Geography

Unit-I

1. Understand the role that statistics play in geography, including discrete and continuous data, population and sample sizes, scales of measurement (nominal, ordinal, interval, and ratio), and data sources.
2. Acquire knowledge of data collection and statistical table preparation.
3. Knowledgeable about sampling techniques, types, and significance.
4. Understand concepts like frequency and cumulative frequency.

Unit- II

1. Theoretical underpinnings of time series analysis, dispersion, coefficient of variation, association, correlation (rank correlation, product moment correlation), and central tendency (mean, median, mode, partition values, etc.).

CC-6 Statistical Methods in Geography (Practical)

1. Build a data matrix where each row corresponds to an aerial unit (towns, districts, blocks, or mouzas), and the columns contain pertinent attributes.

2. Using the information above, a frequency table would be created, and measures of dispersion and central tendency would be calculated and evaluated.

3. The dataset's histograms and frequency curve would be created.

4. A scatter diagram and regression line would be shown using the sample set of two pertinent attributes, and the residual from the regression would be mapped along with a brief interpretation.

CC 7 – Geography of India

The learning outcomes from these fields include:

Unit I

1. This course will explore how geological structures influence landform evolution.
2. The geographic division of India has briefly discussed, thus students will get knowledge about regional parts of India.
3. Overview of Climate, Vegetation & soil wise study will give knowledge about the particular aspects.
4. This course will give idea about current population, caste, Language, Various tribes over India.
5. Problems and prospects of Agricultural development from Indian perspective enriched us as India is an agrarian country.
6. To understand the role of industry on economic development and how mineral deposition can enhance the overall economy of India is an interesting matter to explore.
7. To gain knowledge about the Regionalisation of India.

Unit II

1. From West Bengal perspective we gain knowledge about the Physiographic divisions, forests and water resources.
2. Growth and distribution of population of west Bengal will give us an overall demographic knowledge of West Bengal.
3. This particular topic will also put light on human development thus we can learn the quality of life, income level, poverty & hunger levels of different area.
4. Will get us knowledge about the distribution and deposition of resources of West Bengal.
5. How the developmental work is going on in west Bengal & why regional planning is needed is the matter to explore.

SEC 1 – Computer Basics and Computer Applications (Practical)

The learning outcomes from these fields include:

1. This particular course is very important because it will link technology with geography, thus it will help students to link statistical knowledge with the help of MS Excel.
2. Will give theoretical and practical knowledge about the number system. E.g. Binary, Decimal, Octal, Hexadecimal.
3. Students will develop skills on the methodology of computing Rank, Mean, Median, Mode, Standard Deviation, Correlation, Covariance, Histogram, and Regression.
4. The above mentioned methods will be helpful for the research, Field study, and to analyse various problems of a spatial unit.
5. Understand and to prepare different diagrams by the help of MS Excel.
6. Internet related knowledge & how internet is helpful for the geographical study & data collection.

SEMESTER-IV

CC8 (Theoretical): Regional Planning and Development

Unit 1: Regional Planning

1. It will help to understand what is a region and its classification.
2. Will understand about the planning of a region, its principles, techniques and types.
3. To know and understanding the region as well as its needs to plan accordingly.
4. This will help to idea about Metropolitan area, region etc on the basis of its characteristics.

Unit 2: Regional Development

1. How growth of a region is different from development will be understood.
2. This will help to understand different models for regional development.
3. Will get to know R.P. Mishra model
4. How inequality is different from disparity will get to know.
5. This will able to understand about Human Development Index, its indicator, how to measures it and what is its significance.
6. Help to know how one region of India is different from another region on different basis.
7. This will enable them to understand what are the most suitable strategies for the development of any region.
8. They will know about India's recent transformation in planning body like NITI AAYOG its member, function etc.

CC 9 (Theoretical): Economic Geography

Unit 1: Concepts and Approaches

1. Describe actual meaning of Economic Geography, how to study this geography etc.
2. Will help to understand what is goods, what is service, what is product and what is consumption.
3. They will know what and how different factor forcefully agglomerate industry to locate in a particular place.
4. Will get idea about what are the main factors affecting transport cost.

Unit 2: Economic Activities

1. It will help to know different types of economic activity on the basis of its characteristics.
2. Will get idea about locational theory of Von Thunen and Alfred Weber regarding agriculture and industry.
3. Will understand what is primary economic activity its characteristics and main primary activities within it.
4. Will understand what is secondary economic activity especially iron and steel industry, petro-chemical industry of Japan, India and USA.
5. Will know about tertiary economic activities.
6. This will help to understand plantation agriculture and mixed farming system of agriculture.
7. They will know a transport is so much important for the development of a country as well as different highways of India.
8. Can get knowledge about very big world organisation like WTO, OPEC etc., function, its importance etc.

CC 10: Environmental Geography

Unit –I (Theoretical): Environmental Issues

1. Understand the significance of environmental geography
2. Understand the relevance of environmental geography in past, present and future context
3. Realize how strongly environmental geography is intertwined with the various disciplines of natural and human geography
4. To know about Ecology and ecosystems
5. Able to understand the structure and functions of ecosystem
6. Understand how species diversity within an ecosystem affects ecosystem stability
7. Able to understand different types of ecosystems in different environments
8. Able to develop a correct view of environmental problems and its management
9. Able to get a detailed understanding environmental movements that have taken place in different parts of India during different periods
10. Know the environmental norms and policy frameworks of India
11. Able to understand the importance of wetlands conservation for sustaining the world human and species ecosystem as a whole

CC 10 (Practical): Environmental Geography

1. Preparation of questionnaire helps to build knowledge regarding how to conduct a perception study of any environmental problems
2. It helps to understand the concept of Environmental Impact Assessment (EIA) as a major qualitative approach (Leopold Matrix) to evaluate the environmental sustainability
3. It helps to measure the quality assessment of soil such as soil pH, N, P & K using field kit technique
4. It helps to interpret the air quality using CPCB and WBPCB data

SEC -2 (Practical) : ADVANCED SPATIAL STATISTICAL TECHNIQUES

Using MS Excel students will able to:

1. Acquire the Concept of Probability and Normal Distribution and their Geographical Applications, Skewness (Pearson's Method)
2. Able to differences between Spatial and non-Spatial data,Nearest Neighbour Analysis
3. Learn about Correlation and Regression Analysis, t-test, Spearman's Rank Correlation, Product Moment Correlation; Linear Regression
4. Learn about Time Series Analysis; Smoothing time series by Least Square and/or Moving Average Method

SEMESTER-V

CC-11: Research Methodology & Field Work (Theory)

Unit I: Research Methodology

1. Put geographical research into context (meaning, types, significance, etc.)
2. Concept of the literature review and its role in geographic research.
3. Determining the issues, goals, theories, resources, and techniques for study in geographical inquiry.
4. Understand how to write scientific reports, with an emphasis on organizing the notes, references, bibliography, abstract, keywords, and other aspects.

Unit II: Field Work

1.Recognize the function and importance of fieldwork in the study of geography. Next comes the process of choosing the study area and its rationale. Know fieldwork ethics and pre-field procedures in geographic study.
2. Learn to create an understanding by taking pictures and videos, conducting interviews with respondents—paying particular attention to group discussions—and creating open-ended, closed-ended, structured, and unstructured questionnaires.
4. Be familiar with sample collecting procedures, inventory compilation using field data, and post-field formalities.

CC-11: Research Methodology & Field Work (Practical)

Write a field report utilizing the theoretical knowledge you have already gained by conducting a primary survey.

CC 12 : REMOTE SENSING AND GIS

From this unit, students will gather knowledge about

1. the concept and stages of remote sensing, EMR, EMS, platform
2. EMR Interaction with Atmosphere and Earth Surface, Sensor resolutions
3. Principles of False Colour Composites (FCC) from IRS LISS-III and Landsat Images (ETM+) data: Image Processing, Pre-processing, Enhancement, Classification and
4. Principles of image interpretation for Forest, Water and Soil.

Unit-II

This unit involves getting the knowledge about

1. Definition and Components of Geographical Information System (GIS) and its components.
2. Principles of preparing attribute tables and overlay analysis.
3. Concept and principles of GNSS positioning.
4. Application of GIS for social welfare.

DSE-1 (Theoretical): Cultural and Settlement Geography

Unit-I (Cultural Geography)

1. Study of cultural geography reveals the concept and elements of culture, its scope in human civilization

2. Content of human geography able to identify the broad aspect of cultural geography

3. Able to gain a detailed understanding of how cultural geography has evolved over time

4. It helps to understand how a geographical area transforms from a natural landscape to a cultural landscape through human imprint and its behavioural activity

5. It able to understand how cultural innovation takes place and how it diffused over space-time framework

6. It help to conceptualized how major religion in the world diffused from a specific geographical location and become popular to other parts of the world

7. It will help to understand how Human interaction within the society produce Cultural Segregation, Cultural Diversity, and enhance the Acculturation process

8. Studying cultural geography helps to recognize the major Races of the World, its distribution character etc.

Unit II: Settlement Geography

1. Study of Settlement geography reveals the concept and properties of settlement, its scope in human adaptation in different environment

2. It helps to recognize how rural settlement evolved, its functional character in terms of man environment relation
3. It helps to understand how site and situation play a determining factor for the development human settlement in different environmental, social, cultural and economic aspect
4. It helps to acquire a proper understanding regarding urban settlement, its outgrowth trend and urban agglomeration
5. Understand the morphology of urban settlement through the lance of Burgess, Hoyt and Harris and Ullman
6. It helps to understand the functional aspects of cities in the view point of Harris and Nelson

DSE-2 (Theoretical) : POPULATION GEOGRAPHY

Unit I

1. Able to get the concept of Development of Population Geography.
2. Understand the determinants of Population Dynamics.
3. Acquire knowledge of the theories of population growth: Malthusian Theory and Marxian Approach
4. Will able to get the general concept of distribution, density and growth of Population in India

Unit II

1. Understand the population Composition and Characteristics.
2. Know about the methodologies of measurement of Fertility and Mortality.
3. Build knowledge about the population composition of India.
4. Development of general knowledge about migration, its theories, causes and types
5. Acquire knowledge about the concept of the Human Development Index
6. Get aware of Population and development.
7. Know about how Population policies are implemented in different countries.
8. Also know about contemporary issues in Population.

SEMESTER-VI

CC 13 (Theoretical) : EVOLUTION OF GEOGRAPHICAL THOUGHT

Unit: 1

1. To discuss Definition, Scope and Content of Geography; Geography as a Spatial Science
2. Learning to contribute the Geography in Ancient Period: Greek and Roman geographer.
3.Analysis the Development of Geography in Medieval period: Arabian
4. To understand the Development of Mapping and Knowledge about the World Regional Geography in the Age of Explorations

5. To discuss the Classical Geography in 19th Century: Humboldt, Ritter
6. To understand the Quantitative Revolution and its Critique

Unit: 2

1. Explore the contribution to German School of Thought
2. Explore the contribution to French School of Thought
3. Explore the contribution to American School of Thought
4. Explore the contribution to Indian Contribution to Geography
5. Explore the contribution to Concept of Determinism, Possibilism and Neo-Determinism
6. Explore the contribution to Approaches to the study of Geography: Systematic and Regional

CC 14: Disaster Management

Unit –I

1. A clear understanding of Hazards and disaster will help to identify various natural and manmade incidents that frequently occurring on the earth surface
2. Gain knowledge regarding risk perception and vulnerability assessment and Hazard paradigm
3. It help to understand how to response in various natural and manmade hazards
4. It helps to build knowledge how to respond with a particular hazard, how to combat the trauma and aftermath situation, how to build the resilience and capacity building approach
5. Gain Knowledge (Useful information in terms of data) regarding hazards and disasters

Unit –II

1. Able to understand the dominating factors that produce earthquake, mapping the geographical location and magnitude of vulnerability, its consequences and management strategy
2. Able to understand the dominating factors that produce Landslide, mapping the geographical location and magnitude of vulnerability, its consequences and management strategy
3. Able to understand the dominating factors that produce cyclone, mapping the geographical location and magnitude of vulnerability, its consequences and management strategy
4. Able to understand the dominating factors that produce fire, mapping the geographical location and magnitude of vulnerability, its consequences and management strategy

DSE 3- RESOURCE GEOGRAPHY (Theory)

The learning outcomes from these fields include:

Unit I

1. Idea of resource and the relation with other geographical aspects.
2. Gained knowledge about the resource depletion, and sustainable use of resource.
3. To explore the methods of resource conservation & principles.
4. Learn about The Limits to Growth that discussed the possibility of exponential economic and population growth with finite supply of resources.

Unit II

1. To know the Distribution and Utilisation of Metallic Mineral Resources & Non Metallic Mineral Resources in Indian Context.
2. Problems and prospects of Energy & energy crisis.
3. Study of energy crisis and future scenario of energy will give us a brief idea about energy dynamics.
4. Idea of sustainable Resource development & implementation related matters have learnt.

DSE - 4 (Theoretical) : SOIL AND BIO GEOGRAPHY

Unit: 1: Soil Geography

1. Learn about Soil: Definition, Factors of Formation

2. To explore the Development and Characteristics of an ideal Soil Profile

3. To understand the Physical and Chemical Properties of Soil with special reference to Texture, Structure, Organic Carbon and pH

4. To Concept of Zonal, Azonal and Intrazonal Soil; Formation and Profile Characteristics of Laterite and Podsol

5. To understand the Classification of Soil : Russianand Indian (ICAR)

6.Gain knowledge about Soil Degradation and Manage

Unit-2: Bio-Geography

1. Definition and Scope of Bio-geography, Meaning of Biosphere,Ecology, Ecosystem, Environment, Communities, Habitats, Niche,Ecotoneand Biotopes

2. To explore the Biosphere and Energy: Laws of Energy Exchange, Food Chain, Food Weband Energy Flow

3.Gain knowledge about Bio-Geo Chemical Cycle: Carbon, Nitrogen

4. To understand the Factors of Plant Growth: Light, Heat, Moisture, Wind, Soil and Topography

5. Learning to Biomes – Concept and Classification;Tropical Rainforest and Temperate Grassland

6. Gain the knowledge about Threat to Biodiversity- Causes, Consequences and Conservation

B.A./B.Sc. 3-Year (GENERAL) Degree Course in Geography Under Choice Based Credit System w.e.f. 2017-2018 onward: Programme Specific Learning Outcomes

The programme learning outcomes relating to B.A./B.Sc3-Year (General) Degree Course Programme in geography:

- 1. Demonstrating the understanding of basic concepts in geography.
- 2. Demonstrating the coherent and systematic knowledge in the discipline of geography to deal with current issues and their solution.
- 3. Display an ability to read and understand maps and topographic sheets to look at the various aspects on the space.
- 4. Cultivate ability to evaluate critically the wider chain of network of spatial aspects from global to local level on various time scales as well.
- 5. Recognize the skill development in Geographical studies programme as part of career avenues in various fields like teaching, research and administration.

It is also suggested that after the completion of B.A./B.Sc3-Year (General) Degree Course Programme in geography, students should be able to demonstrate the knowledge obtained in such way so that they can explore the employability options and service to the society.

Course Learning Outcomes: B.A. /B.Sc. 3-Year (General) Degree Course in Geography Under Choice Based Credit System w.e.f. 2017-2018 onward

SEMESTER-I

CC1A/2A GEOMORPHOLOGY AND CARTOGRAPHY

Unit I:Geotectonics and Geomorphology (Theory)

Learning outcomes from this study typically include:

1. Gain knowledge about Weathering: Types and related landforms.
2. Acquire knowledge about Lithosphere – Internal Structure of Earth based on Seismic Evidence.
3. Learn about plate tectonics and origin of fold mountains.
4. Study the processes and factors of landform development in arid, glaciated and fluvial environment.
5. Overview and critical appraisal of landform development models of Davis and Penck.
6. Understand the Hydrological Cycle and ground water.

Unit II: Scale and Cartography (Practical)

Here are some potential learning outcomes from this course:

1. Comprehend the concept of scales.
2. Develop skills in preparing and interpreting Proportional diagrams: Circles and squares.
3. Acquire knowledge to prepare Composite bar diagram and age-sex pyramid.

4. Learning about Taylor's Climograph and Hythergraph.

SEMESTER-II

CC 1B/2B PHYSICAL ENVIRONMENT AND SURVEYING

Unit I: Climatology, Soil and Biogeography (Theory)

Learning outcomes from this study typically include:

1. Get the basic knowledge about the Elements of weather and climate.
2. Know about the distribution of temperature
3. Development of general knowledge of Forms of precipitation and types of rainfall
4. Acquire knowledge about Tropical and Temperate Cyclones, Climatic Classification of Koppen.
5. Understand the definition, physical and chemical properties of soil
6. Know the definition of Biosphere and Biogeography.
7. Get aware of different concepts like Ecosystem. Environment, Ecotone, Communities, Habitats and Biotopes and Biomes

Unit II: Surveying and Levelling (Practical)

1. Get the theoretical concept of surveying
2. Know about Plane table survey by radiation method.
3. Acquire knowledge about open and close traversing by Prismatic Compass
4. Get practical knowledge of drawing of longitudinal profile by Dumpy level

SEMESTER-III

CC-1C/2C Human Geography (Theory) & Map Projection and Map Interpretation (Practical)

Unit I: Human Geography (Theory)

1. Know the geography of humans. Recognize the purpose of human geography, its main subfields, and its applicability in the modern era.

2. Gain knowledge about language, culture, ethnicity, religion, in geographic and social contexts.

3. Recognize how to adapt to the environment and recent changes, paying particular attention to Eskimos.

4. A thorough understanding of migration, demographic transition theory, and population growth with a focus on India.

6. Recognize the age, gender, and literacy structure of the global population.
7. Recognize the various forms and structures of rural communities, the categorization of urban areas, and the operational division of urban areas.

Unit II: Map Projection and Map interpretation (Practical)
1. Construct Simple Conical projection with one standard parallel and Cylindrical Equal Area projection
3. Interpret topographical maps that illustrate the connections between drainage, settlement, and physiography.
4. Examine weather maps prepared by IMD.

SEC 1 – Computer Basics and Computer Applications (Practical)
The learning outcomes from these fields include:

1. This particular course is very important because it will link technology with geography, thus it will help students to link statistical knowledge with the help of MS Excel.
2. Will give knowledge about the number system. E.g. Binary, Decimal, Octal, Hexadecimal.
3. Students will develop skills on the methodology of computing Rank, Mean, Median, Mode, Standard Deviation, Correlation, Covariance, Histogram, and Regression.
4. The above mentioned methods will be helpful for the research, Field study, and to analyse various problems of a spatial unit.
5. Understand and to prepare different diagrams by the help of MS Excel.
6. Internet related knowledge & how internet is helpful for the geographical study & data collection.

SEMESTER-IV

CC- 1D/2D Environmental Geography
Unit-I (Theory)
1. Understand the theories and methods of environmental geography.
2. Recognize the composition and purposes of ecosystems.
3. Recognize the interaction between the environment and humans in mountain and coastal areas.
4.Learn about environmental issues and their management, with a focus on pollution of the air and water.
5. Be familiar with environmental policies and programs, including MAB.

6. Recognize India's policies regarding forests and wildlife.
7. Consider the Chipko movement in relation to Indian environmental movements.
8. Recognize wetlands, with particular attention to India's Ramsar sites.

Unit-II (Practical)

1. Create the survey questionnaire for the perception of health and air pollution.
2. Understand how to use a soil testing kit to measure organic carbon and pH.
3. Demarcate the marshes and woodland from the topographical sheet.

SEC-2 : REGIONAL PLANNING AND DEVELOPMENT

Here are some potential learning outcomes from this course:

1. Comprehend the concept of region,types of regions.
3. Acquire knowledge on regional planning and its concept and significance.
4. Learning about the concept of Human Development Index and its Indicators.
5. Knowledge about agricultural development in India since 1970s and industrial development in India since 1990s.
6. Gain knowledge about the DVC as planning region.
7. Able to prepare of questionnaire on sanitation and health and on waste management.

SEMESTER-V

DSE-1A/2A

DSE – 1A: Geography of India

Unit-I (Theory)

1. It helps to understand the Physical Setting of India in terms of Landforms, Drainage, Climate
2. It will provide the demographic profile of India in terms of Size and Growth of population since Independence
3. It will produce a theoretical understanding regarding the distribution of Settlement over the space and helps to identify Rural and Urban Types
4. It helps to gain the distributional character of Agricultural Resources in terms of Rice, Wheat and Cotton
5. It helps to gain the distributional character of Mineral Resource in terms of Iron ore and Bauxite
6. It helps to gain the distributional character of Energy Resources in terms of Coal and Petroleum
7. It helps to develop knowledge Industrial activities and its development in terms of Cotton Textile and Iron and Steel industries in India

8. It helps to understand the Regional entity of Sunderban as a largest deltic region of the world and Marusthali as hot and dry climatic condition

Unit-II (Practical)

1. It will help to gain a proper understanding regarding the basic aspect of research activity such as how to identify a specific research problem, how to collect primary data through field survey technique
2. It helps to understand the importance of secondary data in research
3. It helps to increase the writing ability of the students
4. It helps to gain the practical knowledge of the research work

SEC-3 : COLLECTION MAPPING AND INTERPRETATION OF CLIMATIC DATA

1. Acquire theoretical knowledge about Sources of Climatic Data
2. Acquire practical knowledge about recording of climatic data with instruments, preparation of Rainfall – Temperature graph, preparation of the Climograph and Hythergraph, drawing of Windrose Diagram, drawing Isotherm and Isohyet as well as Interpretation of daily Indian Weather Map.

SEMESTER-V

DSE-1B/2B : DISASTER MANAGEMENT

UNIT: 1 –Disaster Management

1. To understand the Meaning and Classification of Hazards and Disasters.
2.To explore the Approaches to hazard study: Risk perception and vulnerability assessment.
3. Responses to hazards: Preparedness, trauma and aftermath. Resilience and capacity building.
4. To realize and applied the Hazard mapping: Data and techniques.
5. To realize Earthquake: Causes, Consequences and Management
6. Gain knowledge about Landslide: Causes, Consequences and Management
7. Gain knowledge about Cyclone: Causes, Consequences and Management
8. To understand the Flood: Causes, Consequences and Manageme

Unit: 2 Disaster Management Project Work

1. Able to prepare project report.

SEC-4: Collection, Mapping and Interpretation of Pedological Data Mapping and Analysis of Pedological Data

1. Will know about different techniques about soil sampling.
2. This will help them to represent soil texture data using Ternary diagram.
3. In lab they can estimate Nitrogen in soil by using soil kit.
4. In lab they can estimate soil p^h by using soil kit.

5. In lab they can estimate soil organic carbon by using soil kit.
6. They can analyse soil p^h and its organic carbon and mapping them.

Principal / TIC
Hiralal Bhakat College.
Nalhati, Birbhum

Teacher- in- Charge
Hiralal Bhakat College
Nalhati, Birbhum

Head
Department of Geography
Hiralal Bhakat College
Nalhati, Birbhum

HEAD
DEPARTMENT OF GEOGRAPHY
HIRALAL BHAKAT COLLEGE
NALHATI, BIRBHUM

HIRALAL BHAKAT COLLEGE
Estd-1986
W.B
NALHATI BIRBHUM