

for HONOURS (CBCS) Jun

The UG syllabus of Geography for the University of Burdwan under the CBCS format is well organized as well as knowledge developing. It is intended to make the students more capable towards higher education and research. As a student progress to a higher semester the content of the syllabus is going towards more analytic and research oriented which is very good part of this course,

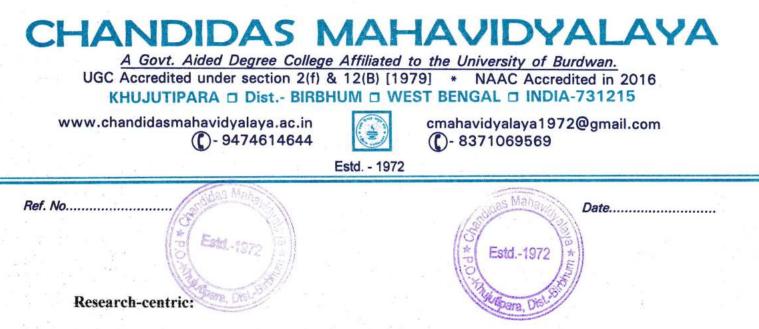
## **Brief Overview:**

A newly admitted student who is entering into the Geography graduation will learn the basic core parts of geography that is geotectonics - geomorphology and cartography which they have learned something during the pre-degree period. Gradually as the semester progresses they get to know about various new and inter-disciplinary courses like Statistical Methods (Statistics and Geography), Regional Planning (Planning and Geography), Environmental Geography (Ecology and Geography), Human Geography (Anthropology and Geography), Climatology (Meteorology and Geography) and others. These will boost both their theoretical and applied knowledge in this domain. Now, in the final year (last two semesters) when they are more matured and developed the course is more inclined towards research and practical domain of this subject. The papers like Research Methodology, Fluvial Geomorphology, Remote Sensing and GIS, Disaster Management etc. are giving the students special knowledge and skill to prepare themselves for the masters and research levels.

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In the research methodology paper they are learning how to make literature survey, research design, referencing styles, writing scientific reports. These are very much effective for those who are willing to research. With this course the students are identifying research as a very wide open field where they can build their career.

### **Skill Based Outcome:**

The modern day tools and techniques like Remote Sensing, Geographical Information System (GIS) and GNSS have now become an integral part of geography learning which the students are getting in this course not only in theoretical mode but also in hands-on method with the software like QGIS. Two SEC papers like Computer Basics-Computer Applications and Field Work are giving the students hands on experience on applied geography. Besides, they use the GPS tools to collect waypoints which are used to map any area accurately. The students are learning the statistical use of MS-EXCEL which will be really helpful in a lot of activities in future.

## **Field Work**

There have been provisions of field work where the students learn how to get prepared for a field survey, collect data from field, compile them and make a field report. The students are taken to a geographically important destination where they visit, stay, observe, explore and importantly collect data. In this period the overall exposure of the students increases and they really learn so many things out of the books.

## Interdisciplinary Knowledge:

The subject Geography is itself an inter-disciplinary domain and in this graduation course there are a lot of papers where the students are gaining knowledge of different other subjects. The examples are like – Statistics, Planning, Economics, Anthropology, Demography, Geology, Cartography, Meteorology and others.

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## CHANDIDAS MAHAVIDYALAYA A Govt. Aided Degree College Affiliated to the University of Burdwan. UGC Accredited under section 2(f) & 12(B) [1979] \* NAAC Accredited in 2016 KHUJUTIPARA D Dist.- BIRBHUM D WEST BENGAL D INDIA-731215 www.chandidasmahavidyalaya.ac.in cmahavidyalaya1972@gmail.com ()-9474614644 (()-8371069569 Estd. - 1972 Ref. No..... Date..... Estd.-197 Estd.-1972 **Region Specific:** The papers like Geography of India, Geography of West Bengal and Regional Planning are

specifically giving insight of different regions' geographical aspects. This is helping them to get the location specific knowledge.

## **Others:**

There are a lot of other things that a geography student is learning during their graduation. Apart from the syllabus specific study, there are social and cultural activities like Quiz, Extempore, Music, Debate etc.; sports, NCC, NSS and others where these students do participate and enrich themselves.

This is approved by the Departmental Faculties for better understanding of the course outcome at a glance.

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HOD

Department of Geography

Principal

Chandidas Mahavidyalaya

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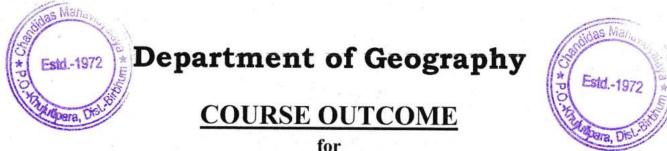


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Honours (CBCS) 4

## SEMESTER - I

## CC-1. GEOTECTONICS AND GEOMORPHOLOGY

In this paper, the students will learn about the earth's origin, geological time scale and geological history of the earth. It will build the foundation of the knowledge of earth's origin, isostasy, plate tectonics and earth's interior. Here, the basic avenues of geo-tectonic processes and allied features are taught. The students will come to know the details about various geotectonic processes that act on the earth and it was significant relation with the geomorphological processes.

Here, the students learn about various processes of Denudation like Weathering, Erosion and Mass Wasting. How the earth materials are eroded and transported over time is discussed here.

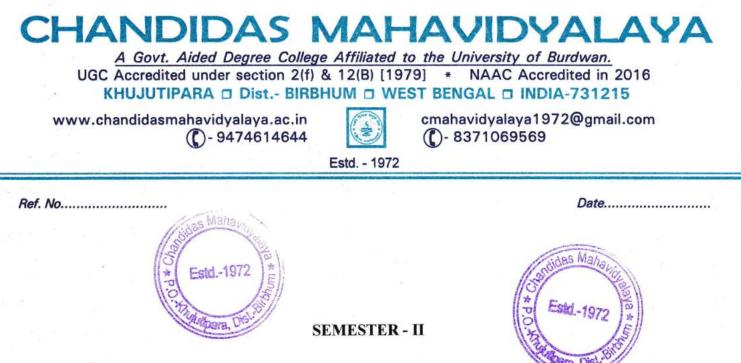
Along with this, landscape evolution theories and concepts of both Cyclic and Non-Cyclic elements are taught like Davis, Penck and Hack's model. The landform evolution process on uniclinal and folded structures and landform development of faulted and volcanic structures are discussed. The slope developmental processes will also be understood. In this section, basic Fluvial, Aeolian, Coastal and Glacial' Processes and Landforms are studied. Various types of landforms in their youth, maturity and old stages are studied here which give them a detailed idea about various geomorphic features.

## CC-2. CARTOGRAPHIC TECHNIQUES AND GEOLOGICAL MAP STUDY

This section is very vital for practical learning of various geographical phenomena like scale, map projection, feature identification from topographical sheets, geological map study and rocks and minerals identification and characterisation. By these techniques they are capable of map making of any geographical area. They can have the true sense of good map making which they can apply in

future studies. Indeajit Mandal

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#### CC-3. HUMAN GEOGRAPHY

This paper aims at students' learning of basic human geographical phenomena like race, ethnicity, culture, society, language, religion, and others. They will understand the population-environment relation, population resource region, social morphology, settlement classification, house types, demographic transition model and many other concepts which ultimately help them to assess global human geographical background.

#### CC-4. CARTOGRAMS, SURVEY AND THEMATIC MAPPING

In this paper, the students will get the knowledge of cartograms, climatic diagrams, thematic mapping and surveying. They will get hands on training on Prismatic Compass, Dumpy Level and Transit Theodolite for field survey. Apart from that they can prepare map having data represented in the form of various diagrams.

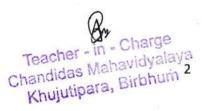
#### **SEMESTER - III**

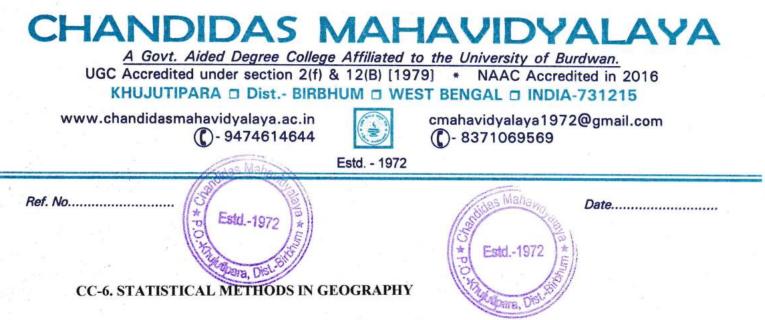
#### CC-5. CLIMATOLOGY

This section deals with various atmospheric phenomena like, temperature, rainfall, wind system and monsoon. Its distribution, process and mechanism of origin are discussed here. The Greenhouse effect and ozone depletion like relevant issues will be known in depth by the students. It builds the foundation of basic climatological understanding of the students. The topics like Air mass, fronts, cyclones, stability-instability and others will give the students better idea of complex atmospheric events. This will help to understand climatic classification and climate change like relevant issues.

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This paper is very important to develop the computing and data analysis skill of the students. It will help them to deal with various types of data and how their calculation and interpretation be done.

This theoretical and practical paper gives them a lot of scope to learn new things ranging from data collection to data analysis and interpretation. Here, Sampling, Frequency Distribution, Measures of Central Tendencies, Dispersion techniques are taught which are applied in all fields of study. The data analysis techniques like Scatter Diagram, Correlation, Regression, Time Series Analysis, and Residual Mapping are also studied.

## CC-7. GEOGRAPHY OF INDIA

In this paper, various physical aspects of India like geology, physiography, drainage, climate and soil are studied. The students will learn and understand the variety and variability of India. Besides, the economic aspects, socio-cultural aspects and regional aspects of India have been taught. Apart from these, they can know very well about various regions of West Bengal too. This paper gives a solid backbone for various competitive examinations they will face in future and develop their general and specific knowledge about Indian geography.

#### SEC-1. COMPUTER BASICS AND COMPUTER APPLICATIONS

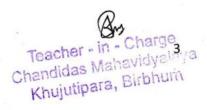
This is a skill development paper where students will learn about computer basics in numbering system, computer applications in terms of data computation, storing and analysis using spread-sheet (MS-Excel). The statistical analysis using MS-Excel has been taught which help them for any kind of data handling. Concept of internet and its functionality has been discussed in this paper.

#### **SEC-1. OR REMOTE SENSING**

In another alternative SEC paper deals with remote sensing, its basic concepts and applications. Students will have their first insight on remote sensing concepts, its vast application part and can learn its potential to solve various earth problems.

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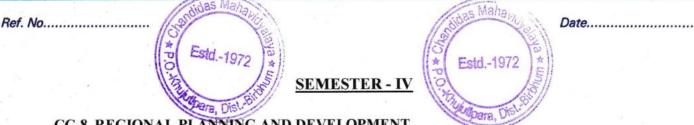
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## CC-8. REGIONAL PLANNING AND DEVELOPMENT

This paper gives idea on region, regionalisation, concept of regional planning and regional development. Regional inequality, disparity in India, human development concept, NITI Aayog and other regional development related issues are studied which give the students proper understanding and knowledge of regional planning. It will help those students who are willing to study further in planning stream.

## **CC-9. ECONOMIC GEOGRAPHY**

Students will learn about approaches of economic geography, resources, economic activities, agriculture, transport and others. They will get to know about two important theories of economic geography in terms of location i.e. Von-Thunen and Weber. They can learn, understand and apply the concepts of economics in geographical areas.

## **CC-10. ENVIRONMENTAL GEOGRAPHY**

Here, the concepts of environment and its application in geographical studies are taught. This is a very relavant and important paper in terms of general knowledge and developing concerns about environment. They students will learn in detail about the concepts like Ecosystem, Environmental Degradation and Pollution, Waste Management, Biodiversity, Forest, Wetlands and others. In the practical part, they can able to assess air quality, soil, questionnaire preparation and EIA.

## SEC-II: ADVANCED SPATIAL STATISTICAL TECHNIQUES OR FIELD WORK

This skill enhancing paper is related with gaining knowledge on advanced statistical techniques which is applied in spatial studies like Nearest Neighbour Analysis, Probability, Correlation and Regression Analysis and Time Series Analysis. This relevant paper gives skill on handling spatial data.

## **SEC-II: OR FIELD WORK**

Students will learn to carry out a comprehensive field work in a village/mouza/town/C.D. Block/ drainage basin selecting a particular research problem. They will learn how to frame out a project report or dissertation based on field study. There will be Problem background, Objectives, Methodology and Findings. This will make them self-dependent on carrying out a research and help in preparing thesis in future.

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SEMESTER - V

## CC-11. RESEARCH METHODOLOGY AND FIELD WORK

This paper introduces the students with research work. They will get to know about the concept of research, literature review, research problem, objectives and hypothesis, materials and methods and others. They will learn how to write scientific research reports, how to carry out field survey and other related things. This enables them for research during master degree and Ph.D. They will prepare a field report based on primary data collected form field survey and secondary data collected from either a rural area (mouza) or an urban area (municipal ward) based on cadastral or municipal maps to study specific problems.

## CC-12. REMOTE SENSING AND GIS

This is a very significant paper in terms of gaining knowledge of advanced geospatial techniques. This is an introductory paper of a whole discipline of Remote Sensing and GIS. They will learn the concepts and principles of Remote Sensing, EMR, Colour Composite, image classification and others. Besides, there are learning of GIS and GNSS in terms of their characteristics, components and application.

In the practical part, they will learn the handling of QGIS software in terms of Georeferencing, FCC preparation & LULC map making by Supervised Image Classification using LISS – III and Landsat data. Digitisation and thematic layer preparation are also being learned by the students. They can be able to prepare maps of any region of the earth using GIS which can be applied in research and education.

## **DSE - 1 URBAN GEOGRAPHY**

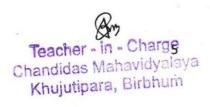
In this paper, urban geographical aspects like Urban Economy, Settlement Hierarchy, Central Place Theory, Rank Size Rule, Concentric Zone Theory, Sector Theory, Multiple Nuclei Theory, City Region, Urbanization and others are studied. It will help for further study in urban planning and related study.

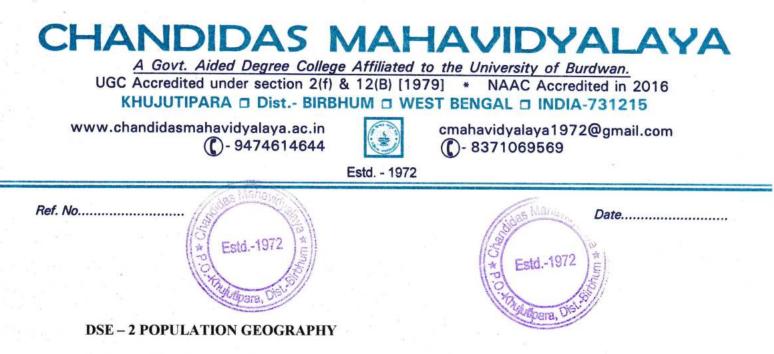
## DSE - 1 Or CULTURAL AND SETTLEMENT GEOGRAPHY

This paper is dealing with cultural geography and settlement geography where the students will learn about culture, race, cultural hearth, settlement theories and others. It will develop the knowledge on these issues

these issues. ndrajit Mandal

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Students will read, learn and understand the basic concepts of population geography and demography like population dynamics, distribution, growth, migration, population composition, fertility, mortality, HDI and others. Various theories will also be studied for example - Malthusian Theory, Marxian theory and Demographic Transition Model.

#### **DSE - 2 Or SOCIAL GEOGRAPHY**

The concept of society, Social Groups, Social Behaviour, Caste, Class, Religion, Race, Social Wellbeing, Quality of Life, social analysis and others are studied in this paper. It will enable the students about understanding the society and social geography of India and world.

### SEMESTER - VI

## CC-13. EVOLUTION OF GEOGRAPHICAL THOUGHTS

This section describes the history and development of the fundamental concepts of geography from Ancient through Mediaeval to Modern time periods. The development of Geography in the 20<sup>th</sup> Century has been studied. Different schools of geographical thought in modern geography like German School, French School, American School and Indian School. Students will know about the contributions of these schools and their scholars.In the later stage, they will understand various concepts in geography like Determinism, Possibilism, Neo-Determinism, and approaches to study of geography.

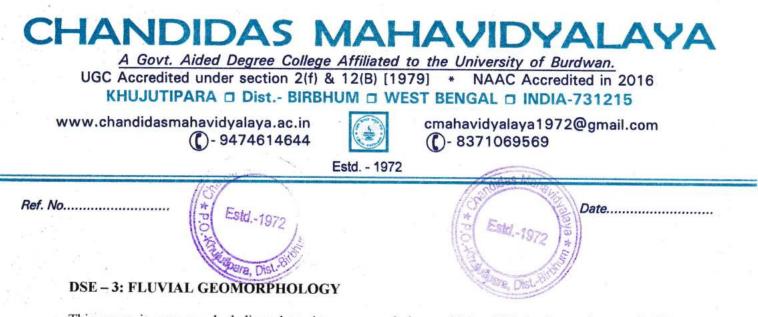
## **CC-14. DISASTER MANAGEMENT**

This paper is very relevant in terms of understanding hazards and disasters. The students will learn to identify the risk and vulnerability of hazards, hazard mapping. Four key types of hazards have been taught which are Earthquake, Landslide, Cyclone and Fire in terms of their vulnerability, consequences and management. They will also learn to prepare project report on various hazards.

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This paper is very much dedicated to river geomorphology which will help the students to build strong skill and concept on river basin hydrological and geomorphological phenomena. They will know various things that act on river basin like run-off, overland flow, and many more. They will learn to measure different properties of river as linear, areal and relief. The students can also know about watershed management, Dams and Barrages. Therefore, it will be helpful for research in catchment hydrology.

## **DSE - 3 Or: RESOURCE GEOGRAPHY**

This paper is mainly concentrated on resources and its various avenues like Functional Theory, Resource Conservation, Limits to Growth. The regional concentration, distribution and use of resources are also be known by the students.

### **DSE - 4: SOIL AND BIOGEOGRAPHY**

Soil formation, its process, soil profile, classification and other relevant pedological studies are taught in this section. Besides, soil erosion and conservation practices are also included here. It will help to grow the knowledge and apply in practical ground. Here, the concepts of ecological aspects like ecology, ecosystem, Environment, Ecotone, Communities, Habitats, Niche, and Biomes are given. They get to learn about these things which are useful for further higher studies and application. This section builds the applied knowledge of biogeography.

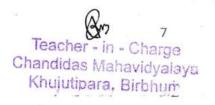
## DSE - 4 Or: AGRICULTURAL GEOGRAPHY

Students will learn about Origin and Diffusion of Agriculture, Agricultural Systems, Crop Combination, Agro-climatic Regions, and many other things. This will build their knowledge and skill on agricultural geographical issues.

Hence, these six semester program will not only enrich the students with knowledge but also build strong skill for higher studies, research and jobs.

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**GENERAL (CBCS)** 

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## **Brief Overview:**

A newly admitted student who is entering into the Geography graduation will learn the basic core parts of geography that is geotectonics - geomorphology and cartography which they have learned something during the pre-degree period. Gradually as the semester progresses they get to know about various new and inter-disciplinary courses like Statistical Methods (Statistics and Geography), Regional Planning (Planning and Geography), Environmental Geography (Ecology and Geography), Human Geography (Anthropology and Geography), Climatology (Meteorology and Geography) and others. These will boost both their theoretical and applied knowledge in this domain.

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## **Skill Based Outcome:**

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The modern day tools and techniques like Remote Sensing, Geographical Information System (GIS) and GNSS have now become an integral part of geography learning which the students are getting in this course not only in theoretical mode but also in hands-on method with the software like QGIS. Two SEC papers like Computer Basics-Computer Applications and Field Work are giving the students hands on experience on applied geography. Besides, they use the GPS tools to collect waypoints which are used to map any area accurately. The students are learning the statistical use of MS-EXCEL which will be really helpful in a lot of activities in future.

## **Field Work**

There have been provisions of field work where the students learn how to get prepared for a field survey, collect data from field, compile them and make a field report. The students are taken to a geographically important destination where they visit, stay, observe, explore and importantly collect data. In this period the overall exposure of the students increases and they really learn so many things out of the books.

## Interdisciplinary Knowledge:

The subject Geography is itself an inter-disciplinary domain and in this graduation course there are a lot of papers where the students are gaining knowledge of different other subjects. The examples are like – Statistics, Planning, Economics, Anthropology, Demography, Geology, Cartography, Meteorology and others.

## **Region Specific:**

The papers like Geography of India, Geography of West Bengal and Regional Planning are specifically giving insight of different regions' geographical aspects. This is helping them to get the location specific knowledge.

## **Others:**

There are a lot of other things that a geography student is learning during their graduation.

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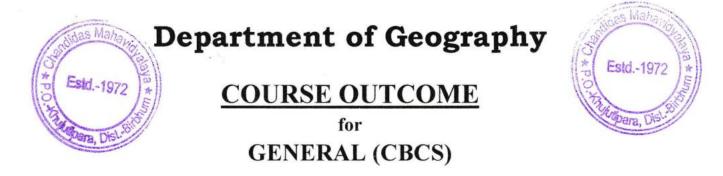


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## SEMESTER - I

## CC-1. GEOTECTONICS AND GEOMORPHOLOGY

In this paper, the students will learn about the Lithosphere and plate Tectonics of the earth. It will build the foundation of the knowledge of earth's origin, plate tectonics and earth's interior. Here, the basic avenues of geo-tectonic processes and allied features are taught. The students will come to know the details about various geotectonic processes that act on the earth and it was significant relation with the geomorphological processes.

Here, the students learn about various processes of Denudation like Weathering, Erosion and Mass Wasting. How the earth materials are eroded and transported over time is discussed here.

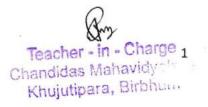
Along with this, landscape evolution theories and concepts of cyclic elements are taught like Davis and Penck model. In this section, basic Fluvial, Aeolian, Coastal and Glacial' Processes and Landforms are studied. Various types of landforms in their youth, maturity and old stages are studied here which give them a detailed idea about various geomorphic features.

## Scale and Cartography

This section is very vital for practical learning of various geographical phenomena like scale, proportional diagram, bar diagram, age-sex pyramid, climograph & hythergraph. By these techniques they are capable of map making of any geographical area. They can have the true sense of good map making which they can apply in future studies.

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SEMESTER – II

## Unit I: Climatology, Soil and Biogeography

This section deals with various atmospheric phenomena like, temperature, rainfall, wind system and monsoon. Its distribution, process and mechanism of origin are discussed here. The Greenhouse effect and ozone depletion like relevant issues will be known in depth by the students. It builds the foundation of basic climatological understanding of the students. The topics like Air mass, fronts, cyclones, stability-instability and others will give the students better idea of complex atmospheric events. This will help to understand climatic classification and climate change like relevant issues.

Soil formation, its process, soil profile, classification and other relevant pedological studies are taught in this section. Besides, soil erosion and conservation practices are also included here. It will help to grow the knowledge and apply in practical ground. Here, the concepts of ecological aspects like ecology, ecosystem, Environment, Ecotone, Communities, Habitats, Niche, and Biomes are given. They get to learn about these things which are useful for further higher studies and application. This section builds the applied knowledge of biogeography.

## Unit II: Surveying and Levelling

In this paper, the students will get the knowledge of cartograms and surveying. They will get hands on training on Prismatic Compass, Dumpy Level and Transit Theodolite for field survey. Apart from that they can prepare map having data represented in the form of various diagrams.

## SEMESTER – III

## CC1C

## Unit I: Human Geography

This paper aims at students' learning of basic human geographical phenomena like race, ethnicity, culture, society, language, religion, and others. They will understand the population-environment relation, population resource region, settlement classification, house types, demographic transition model and many other concepts which ultimately help them to assess global human geographical background.

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Unit II: Map Projection and Map interpretation

This section is very vital for practical learning of various geographical phenomena like scale, map projection, feature identification from topographical sheets, geological map study and rocks and minerals identification and characterisation. By these techniques they are capable of map making of any geographical area. They can have the true sense of good map making which they can apply in future studies.

## SEC-1. COMPUTER BASICS AND COMPUTER APPLICATIONS

This is a skill development paper where students will learn about computer basics in numbering system, computer applications in terms of data computation, storing and analysis using spread-sheet (MS-Excel). The statistical analysis using MS-Excel has been taught which help them for any kind of data handling. Concept of internet and its functionality has been discussed in this paper.

### SEC-1. OR REMOTE SENSING

In another alternative SEC paper deals with remote sensing, its basic concepts and applications. Students will have their first insight on remote sensing concepts, its vast application part and can learn its potential to solve various earth problems.

### SEMESTER - IV

#### CC-1D. ENVIRONMENTAL GEOGRAPHY

#### Unit I:

Here, the concepts of environment and its application in geographical studies are taught. This is a very relavant and important paper in terms of general knowledge and developing concerns about environment. They students will learn in detail about the concepts like Ecosystem, Environmental Degradation and Pollution, Waste Management, Biodiversity, Forest, Wetlands and others.

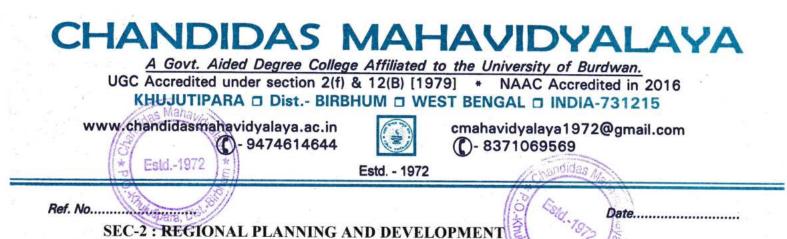
#### Unit II

In the practical part, they can able to assess air quality, soil, questionnaire preparation, Mapping of Wetlands from Topographical Sheet, Mapping of Forest from Topographical Sheet and EIA.

Indrojit Mandal

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This paper gives idea on region, regionalisation, concept of regional planning and regional development. Regional inequality, disparity in India, human development concept, NITI Aayog and other regional development related issues are studied which give the students proper understanding and knowledge of regional planning. It will help those students who are willing to study further in planning stream.

## OR

## SEC-2 : GIS BASED PROJECT REPORT

This is a very significant paper in terms of gaining knowledge of advanced geospatial techniques. This is an introductory paper of a whole discipline of Remote Sensing and GIS. They will learn the concepts and principles of Remote Sensing, EMR, Colour Composite, image classification and others. Besides, there are learning of GIS and GNSS in terms of their characteristics, components and application.

In the practical part, they will learn the handling of QGIS software in terms of Georeferencing, FCC preparation & LULC map making by Supervised Image Classification using LISS – III and Landsat data. Digitisation and thematic layer preparation are also being learned by the students. They can be able to prepare maps of any region of the earth using GIS which can be applied in research and education.

## <u>SEMESTER – V</u>

### DSE-1A: UNIT: 1 - Geography of India

In this paper, various physical aspects of India like geology, physiography, drainage, climate and soil are studied. The students will learn and understand the variety and variability of India. Besides, the economic aspects, socio-cultural aspects and regional aspects of India have been taught. Apart from these, they can know very well about various regions of West Bengal too. This paper gives a solid backbone for various competitive examinations they will face in future and develop their general and specific knowledge about Indian geography.

## OR

DSE 1A : ECONOMIC GEOGRAPHY : Unit I Students will learn about approaches of economic geography, resources, economic activities, agriculture, transport and others. They will get to know about two important theories of economic geography in terms of location i.e. Von-Thunen and

Weber. They can learn, understand and apply the concepts of economics in geographical areas

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Unit- II (Practical): FIELD WORK: Students will learn to carry out a comprehensive field work in a village/mouza/town/C.D. Block/ drainage basin selecting a particular research problem. They will learn how to frame out a project report or dissertation based on field study. There will be Problem background, Objectives, Methodology and Findings. This will make them self-dependent on carrying out a research and help in preparing thesis in future

#### SEC-3

## ADVANCED SPATIAL STATISTICAL TECHNIQUES OR FIELD WORK

This skill enhancing paper is related with gaining knowledge on advanced statistical techniques which is applied in spatial studies like Nearest Neighbour Analysis, Probability, Correlation and Regression Analysis and Time Series Analysis. This relevant paper gives skill on handling spatial data.

Field work in any rural or urban mouza will strengthen the applied ability in data handling of the students.

## SEMESTER - VI

## DSE-1B: Disaster Management

This paper is very relevant in terms of understanding hazards and disasters. The students will learn to identify the risk and vulnerability of hazards, hazard mapping. Four key types of hazards have been taught which are Earthquake, Landslide, Cyclone and Fire in terms of their vulnerability, consequences and management. They will also learn to prepare project report on various hazards.

#### Or DSE- 1B: GEOGRAPHY OF TOURISM

This paper focuses on tourism study based on geographical variations. The topics like Concepts, Nature and Scope of Tourism Geography will help them to understand the core aspect of the subject. Eco-Tourism and Sustainable Tourism are the key areas of study along with the problems and recent trends of tourism. The practical project work will help them perform case studies in these areas and make them suitable for understanding tourism potential of any region.

ndrajit Mendal

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