

Syllabus:

Non – CBCS:

1. GGRM – 101: Introduction to Geography

2016 – 2017

a. Diganta Kr. Saikai

b. Champa Tamuli

Objective: This introductory course is intended to acquaint the students with distinctiveness of Geography as a field of learning in Social Science as well as in Natural Science. The philosophy and methodology develop a keen interest in the subject and pursue it for higher studies.

Unit – I: Introduction

Unit – II: Geography – Major themes and sub-themes

Unit – III: Perspective in Geography

Unit – IV: Introduction to Geomorphology

2. GGRM – 201: Geomorphology, Biogeography and Oceanography

Unit – I: Theories in Geomorphology

Unit – II: Geomorphic Process

Unit – III: Biogeography

Unit – IV: Oceanography

3. GGRM – 301: Climatology

2017– 2018

1. Diganta Kr. Saikia

2. Chapma Tamuli

3. Bishmitha Mili

Objective: This paper is structured with the components of climatology. The basic objective of this course is to acquaint the students with the different aspects of climate. The course contents lead to the identification of climatic differences on the earth and consequences of human activities on the atmospheric processes.

Unit – I: Atmosphere

Unit – II: Humidity and Precipitation

Unit – III: Classification of climates

4. GGRM – 302: Practical

Objective: This paper is designed to acquaint the students with the topographic study and representation of climatic data and their analyses.

Unit – I: Toposheet study and profile drawing

Unit – II: Climatic data study

Unit – III: Practical note book and Viva-voce

5. GGRM – 303: Environmental Geography and Economic Geography (Part-I)

Objective: This paper is structured to acquaint the students with the various aspects of Environmental Geography, Ecology and Ecosystem as well as to acquaint the students with the various sectors of economy and the importance and spatial distribution of resources.

Unit – I: Environmental Geography

Unit – II: Ecology and Ecosystem

Unit – III: Geography of Resources

6. GGRM – 401: Human Geography

Objective: This introductory paper is intended to acquaint the students with distinctiveness of Geography as a field of learning in Social Sciences as well as in natural science. The philosophy and methodology of the subject is discussed in such a way that the students develop a keen interest in the subject and pursue it for higher studies.

Unit – I: Human Geography

Unit – II: Pattern of Human Adaptation

Unit – III: Population Growth and Distribution, Population regions and policies

7. GGRM – 402: Practical

Objective: This paper is designed to acquaint the student with the use of different cartographic methods to represent different population data and their analysis, and procedure of construction of map projections.

Unit – I: Population data study

Unit – II: Map Projections

Unit – III: Practical note book and Viva-voce

8. GGRM – 403: Economic Geography

Objective: The objectives of this course are to acquaint the students with the various aspects of industrial, agricultural and transport geography.

Unit – I: Industrial Geography

Unit – II: Agricultural Geography

Unit – III: Transport Geography

9. GGRM – 404: Practical

Unit – I: Fundamental of Surveying

Unit - II: Excursion Report

Unit – III: Practical note book and viva-voce

10. GGRM – 501: Regional Geography of India (Part – I) 2018-2019

1. Diganta Kr. Saikia

2. Chapma Tamuli

3. Udipta Saikia

4. Korobi Saikia

Objective: The basic objective of this course is to give a comprehensive idea about the various geographical aspects of India and NE India including geology, physiography, climate, soil, vegetation and mineral and power resources.

Unit – I: Physical Geography of India

Unit – II: Mineral and Power Resources

Unit – III: Physical Geography of NE India

11. GGRM – 502: Map Projections and Cartograms (Practical)

Objective: This paper is designed to acquaint the students with the drawing of conventional map projections and representation of data by using advanced cartographic methods.

Unit – I: Map Projection

Unit – II: Representation of data by using different cartograms

Unit – III: Practical note book and viva-voce

12. GGRM – 503: Regional Geography of the World (Part – I)

Objective: The basic objective of this course is to acquaint the students with the geographical aspects of the three continents i.e. Asia, North America and South America

Unit – I: Asia

Unit – II: North America

Unit – III: South America

13. GGRM – 504 Thematic Mapping and Hypsometric analysis (Practical)

Objective: This paper is designed to acquaint the students with the construction of thematic maps of India and North East India by using different socio-economic data and comparative study of the maps of pre and post independent India.

Unit – I: Thematic mapping and shape index analysis of India

Unit – II: Thematic mapping of NE India

Unit – III: Practical note book and viva-voce

14. GGRM – 601 Map Projection and Cartographic Method

1. **Diganta Kr. Saikia**

2. **Chapma Tamuli**

3. **Udipta Saikia**

4. **Korobi Saikia**

Objective: This course is aimed at to familiarized the students with the history of map projections and methods including its development and change through time. Besides this the course is also aimed at to acquaint he students with the basic knowledge of surveying and levelling and modern cartographic methods. These will help the students in their practical studies.

Unit – I: Map Projection

Unit –II: Cartographic Methods

Unit – III: Modern Cartographic Methods.

15. GGRM – 602 Surveying (Practical)

Objective: The objective of this course is to develop skills among thee students regarding the surveying by using survey instruments.

Unit – I: Survey

Unit – II: Laboratory Work

16. GGRM – 603 Regional Geography of India (Part II)

1. **Diganta Kr. Saikia**

2. **Chapma Tamuli**

3. **Prarthana Dutta**

Objective: the basic objectives of this is to give a comprehensive idea regarding the economy and socio-cultural structure of India and economy o North-East India

Unit – I: Agriculture, Industries and Transport

Unit – II: Socio-cultural Structure

Unit – III: Economy of North East India

17. GGRM – 604 Imagery Interpretation (Practical)

1. **Korobi Saikia**

Objective: The objective of this course is to develop skills among the students regarding the use of modern techniques like interpretation and comparison of satellite imagery.

Unit – I: Image Interpretation

Unit – II: Satellite Image Comparisons

18. GGRM – 605 Regional Geography of the World (Part II)

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Prarthana Dutta**

Objective: The basic objective of this course is to acquaint the students with the geographical aspects of the three continents i.e. Africa, Australia, New Zealand and Europe

Unit – I: Africa

Unit – II: Australia and New Zealand

Unit – III: Europe

19. GGRM – 606 Pattern Analysis (Practical)

- 1. Chapma Tamuli**
- 2. Prarthana Dutta**

Unit – I: Statistical Data representation Part I

Unit – II: Statistical Data representation Part II

20. GGRM – 607 Geographical Thoughts and Quantitative methods

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Korobi Saikia**
- 4. Prarthana Dutta**

Objective: The objectives of this course is to acquaint the students with the history of geographical thought through the course of time and contemporary quantitative methods and techniques used in geography in today's context.

Unit – I: Geographic Thought

Unit – II: Quantitative methods

21. GGRM – 608 Practical

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Korobi Saikia**
- 4. Prarthana Dutta**

Objective: the objective of this course is to develop skills among the students regarding the use of modern statistical techniques like hypsometric and bathymetric curves and their analysis and project report writing.

Unit – I: Hypsometric analysis

Unit – II: Project Report.

CBCS:

1. COURSE C1

**GGRM 101T4: GEOMORPHOLOGY AND BIO GEOGRAPHY
2019-2020**

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Korobi Saikia**

Objective: The main objective of this paper is to make the students comprehend the various processes responsible for the development of diverse landforms on the earth surface. The candidate will also learn how the natural surrounding and human activities are responsible for the distribution of plants and animals.

Units:

- 1: Geomorphology: Nature and Scope.
- 2: Earth: Interior Structure and Isostasy.
3. Earth Movements: Plate Tectonics, Types of Folds and Faults, Earthquakes and Volcanoes.
4. Geomorphic Processes: Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck).
5. Evolution of Landforms (Erosional and Depositional): Fluvial, Karst, Aeolian, Glacial, and Coastal.
6. Definition, scope and significance of Bio Geography
7. World distribution of plants and its relation to soil, climate and human activities

8. World distribution of animals and its relation with vegetation, climate and Human activities
9. Soil – soil forming processes, classification and distribution of soil, soil horizon and profile, soil erosion and conservation. Importance of soil, major soil types of India and Assam

COURSE C1

GGRM 101P2: GEOMORPHIC TECHNIQUES (PRACTICAL)

- 1. Korobi Saikia**
- 2. Prarthana Dutta**

Objective: The main objective of this paper is to make the students understand the various morphometric techniques used in drainage analysis. The students will also about the various slope analysis techniques and uses of different types of scale.

Units:

1. Cartography – Nature and Scope.
2. Scales – Concept and application; Graphical Construction of Plain, Comparative and Diagonal
3. Topographical Map – Interpretation of a Mountain area with the help of Cross and Longitudinal Profiles.
4. Morphometric Analysis: Drainage ordering, basin area demarcation, drainage density, Bifurcation ratio.
5. Slope Analysis – Wentworth's method and Smith's Method.

Course C2

GGRM 102T4 CLIMATOLOGY (Theory)

- 1. Chapma Tamuli**
- 2. Prarthana Dutta**

Objective: The main objective of this paper is to make the students aware of the composition of atmosphere and various climatic processes. The students will also learn about various factors responsible for the climatic disturbances.

Units:

1. Atmospheric Composition and Structure – Variation with Altitude, Latitude and Season.
2. Insolation and Temperature – Factors and Distribution, Heat Budget, Temperature Inversion.
3. Atmospheric Pressure and Winds – Planetary Winds, Forces affecting Winds, General Circulation, Jet Streams.
4. Atmospheric Moisture – Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types, Stability and Instability; Climatic Regions (Koppen)
5. Cyclones – Tropical Cyclones, Extra Tropical Cyclones, Monsoon - Origin and Mechanism

Course C2

GGRM 102P2: PRACTICALS BASED ON CLIMATIC DATA

1. Chapma Tamuli

2. Prarthana Dutta

Objective: The main objective of this paper is to make the students gain knowledge of the various weather symbols and to prepare graphs based on climatic data. The students will also find out the variability in the distribution of rainfall and the factors responsible for such variation in the pattern of rainfall.

Units:

1. Study of weather symbols
2. Indian daily weather map interpretation for the summer and winter seasons.

3. Representation of climatic data:
 - (a) Preparation of Climograph, Hythergraph and Ergograph and their interpretation
 - (b) Preparation of rainfall variability map of Assam

Course C3

GGRM201T6: HUMAN GEOGRAPHY (Theory)

1. **Diganta Kr. Saikia**
2. **Chapma Tamuli**
3. **Korobi Saikia**

Objective: The objective of this paper is to introduce the major themes of human geography and its importance in present days. The students will also learn about population growth and factors responsible for uneven distribution of population in the world. The student will also gain knowledge about the population resource relationship and various types of settlement pattern.

Units:

1. Introduction: Defining Human Geography; Major Themes; Contemporary Relevance
2. Space and Society: Cultural Regions; Race; Religion and Language
3. Population: Population Growth and Distribution; Population Composition; Demographic Transition Theory
4. Settlements: Types of Rural Settlements; Classification of Urban Settlements; Trends and Patterns of World Urbanization
5. Population-Resource Relationship

Course C4

GGRM 202T4: GEOGRAPHY OF INDIA (Theory)

- 1. Chapma Tamuli**
- 2. Prarthana Dutta**
- 3. Pranamee Gogoi**

Objective: The objective of this paper is to make the students familiar with the various aspects of India. The students will learn about the physical, anthropogenic and economic diversity of India and the factors responsible for such diversities.

Units:

1. Physical: Physiographic Divisions, soil and vegetation, climate (characteristics and classification)
2. Population: Distribution and growth, Structure; Social: Distribution of population by race, caste, religion, language, tribes and their correlates
3. Economic: Mineral and power resources distribution and utilisation of iron ore, coal, petroleum, gas; agricultural production and distribution of rice and wheat, industrial development : automobile and Information technology
4. Physical Geography of North East India.
5. Resource- agriculture, mineral, forest and Industries of Assam.

Course C4

GGRM 202P2: PRACTICAL ON THEMATIC CARTOGRAPHY

- 1. Chapma Tamuli**
- 2. Prarthana Dutta**
- 3. Pranamee Gogoi**

Objective: The main objective of this paper is to make the students aware of the various application of thematic mapping and shape index analysis.

Unit – I Thematic mapping and shape index analysis of India

1. Preparation of maps showing geographical themes – minerals, forest, agriculture etc.
2. Shape index analysis – comparison of shapes of Pre and Post Independent India

Unit – II Thematic mapping of NE India

1. Preparation of maps showing geographical themes – soil, industries, population minerals, forest, agriculture etc

Unit- III Age- sex pyramid

1. Develop and developing countries.

Course C5

GGRM 301T4: CARTOGRAPHY (Theory)

1. **Diganta Kr. Saikia**
2. **Chapma Tamuli**
3. **Korobi Saikia**

Objective: The main objective of this paper is to make the students aware about the history of map projection and uses of different types of map projection. An attempt is also made to enlighten the students about the various surveying methods and the instrument used in it.

Units:

1. History of development of map projections, classification and use of different types of map projections, Choice of map projection
2. Basic principles of surveying and their necessity in Geography: Vertical and horizontal controls
3. Surveying and leveling:
 - i) Plane table surveying – different methods
 - ii) Prismatic compass surveying – closed and open traverse, calculation of included angles, correction of bearing, omitted measurement
 - iii) Theodolite traversing – measurement of heights
 - iv) Leveling – different types

C5

GGRM 302P2: CARTOGRAPHIC TECHNIQUES (PRACTICAL)

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Korobi Saikia**

Objective: The main objective of this paper is to enlighten the students with the different types of map projection and its uses.

Units:

Projection: Conical One Standard, Bonne's and Polyconic Cylindrical; Equal Area, Equidistant, Galls Stereography and Mercator projection.

Course C6

GGRM302T6: REGIONAL GEOGRAPHY OF WORLD (Theory)

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Prarthana Dutta**

Objective: The main objective of this course to develop understanding of the learner about climate, soil and topography in different continents of the world. the course also familiarize learner with industrialization and population distribution in developed, developing and underdeveloped nations of the world.

Units:

1. Physiography, climate, soil and vegetation of Asia, Africa, Europe, North America
2. Mineral resources and industrial development of the developed, developing and the underdeveloped countries
3. Distribution of population of World

4. Regional studies of Middle East and South East Asia and the Mediterranean region

Course C7

GGRM 303T6: STATISTICAL METHODS IN GEOGRAPHY (Theory)

- 1. Diganta Kr. Saikia**
- 2. Chapma Tamuli**
- 3. Prarthana Dutta**

Objective: The main objective of this paper is to make the students aware about the various statistical techniques used in geographical study.

Units:

1. Use of Data in Geography: Geographical Data Matrix, Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio)
2. Tabulation and Descriptive Statistics: Frequencies (Deciles, Quartiles), Cross Tabulation, Central Tendency (Mean, Median and Mode, Centro-graphic Techniques, Dispersion (Standard Deviation, Variance and Coefficient of Variation).
3. Sampling: Purposive, Random, Systematic and Stratified.
4. Theoretical Distribution: Probability and Normal Distribution
5. Association and Correlation: Rank Correlation, Product Moment Correlation, and Simple Regression, Residuals from regression

Course C8

GGRM401T6: ECONOMIC GEOGRAPHY (Theory)

- 1. Chapma Tamuli**
- 2. Prarthana Dutta**

Objective: The goal of this course is to enhance the learner with the basic ideas of primary, secondary and tertiary activities and its spatio-temporal pattern. The learners

will also acquire the knowledge of some economic development models in relation to agriculture and industry.

Units:

1. Introduction: Concept and classification of economic activity
2. Factors Affecting location of Economic Activity with special reference to Agriculture (Von Thunen theory), Industry (Weber's theory).
3. Primary Activities: Subsistence and Commercial agriculture, forestry, fishing and mining.
4. Secondary Activities: Manufacturing (Cotton Textile, Iron and Steel), Concept of Manufacturing Regions, Special Economic Zones and Technology Parks.
5. Tertiary Activities: Transport, Trade and Services.

Course C 9

GGRM402T6: ENVIRONMENTAL GEOGRAPHY (Theory)

1. Diganta Kr. Saikia
2. Chapma Tamuli

Objective: The objective of this course is to develop conceptual and theoretical ideas of environment as well as relationship between man and environment in different geo climatic regions. The learners will also attain the nature and intensity of some burning environmental issues at local, regional and global level along with mitigation programs and policies.

Units:

1. Environmental Geography – Concept and Scope
2. Human-Environment Relationships – Historical Progression, Adaptation in different Biomes.
3. Ecosystem – Concept, Structure and Functions
4. Environmental Problems in Tropical, Temperate and Polar Ecosystems
5. Environmental Programmes and Policies – Global, National and Local levels

Course C10

GGRM403T4: REMOTE SENSING AND GIS (Theory)

- 1. Korobi Sakia**
- 2. Pranamee Gogoi**

Objective: The goal of this course is to enhance of the ability of the learners in the field of latest satellite-based technology and data source such as remote sensing.

Unit:

1. Historical Development of remote sensing as a technology-Relevance of remote sensing in Geography.
2. Concept and basics: Energy source, energy and radiation principles
3. Energy interactions in the atmosphere and earth surface features.
4. Remote sensing systems: platforms, sensors and radiations records

Course C10

GGRM403P2: REMOTE SENSING AND GIS (PRACTICAL)

- 1. Korobi Sakia**
- 2. Pranamee Gogoi**

Objective: The objective of the course is to develop some practical knowledge and skills in diversified applications of remote sensing data and technology.

Units:

1. Remote Sensing and GIS: Definition and Components, Development, Platforms and Types
2. Aerial Photography and Satellite Remote Sensing: Principles, Types and Geometry of Aerial Photograph; Principles of Remote Sensing, EMR Interaction with Atmosphere and Earth Surface; Satellites (Landsat and IRS) and Sensors.
3. GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure

4. Image Processing (Digital and Manual) and Data Analysis: Pre-processing (Radiometric and Geometric Correction), Enhancement (Filtering); Classification (Supervised and Un-supervised), Geo-Referencing; Editing and Output; Overlays
5. Interpretation and Application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring

Course C11

GGRM 501T4: REGIONAL PLANNING AND DEVELOPMENT (Theory)

1. Diganta Kr. Saikia

2. Korobi Sakia

Objective: The objective of the paper is to improve the understanding of learners about Region, regionalization, regional planning and development. It will also incorporate models associated with economic growth and development.

Units:

1. Definition of Region, Evolution and Types of Regional planning: Formal, Functional, and Planning Regions and Regional Planning; Need for Regional Planning; Types of regional Planning.
2. Choice of a Region for Planning: Characteristics of an Ideal Planning Region; Delineation of Planning Region; Regionalization of India for Planning (Agro Ecological Zones)
3. Theories and Models for Regional Planning: Growth Pole Model of Perroux; Growth Centre Model in Indian Context; Myrdal, Hirschman, Rostow and Friedmann; Village Cluster
4. Changing Concept of Development, Concept of underdevelopment; Efficiency-Equity Debate
5. Measuring development: Indicators (Economic, Social and Environmental); Human development

Course C11

GGRM 501P2: REGIONAL PLANNING AND DEVELOPMENT

(Practical)

- 1. Diganta Kr. Saikia**
- 2. Champa Tamuli**

Objective: The basic objective of the course is to enhance the learner in the field of demarcation and distribution of resources.

Units:

1. Methods of regionalization:
 - a) Simple ranking method
 - b) Mean method
 - c) Z- Score standardization.
2. Resource disparity map:
 - a) Power resource (Hydel, Thermal, Nuclear)
 - b) Mineral resources (coal, iron ore)

Course C12

GGRM502T4: POPULATION GEOGRAPHY (Theory)

- 1. Chapma Tamuli**
- 2. Prarthana Dutta**

Objective: The objective of this course is to enhance the learner with the basic ideas of population size, composition, growth and distribution along with its determinants. The course will also incorporate contemporary issues of population.

Units:

1. Defining the Field – Nature and Scope; Sources of Data with special reference to India (Census, Vital Statistics and NSS).

2. Population Size, Distribution and Growth – Determinants and Patterns; Theories of Growth –Malthusian Theory and Demographic Transition Theory. Population Dynamics: Fertility, Mortality and Migration – Measures, Determinants and Implications.
3. Population Composition and Characteristics – Age-Sex Composition; Rural and Urban Composition; Literacy.
4. Contemporary Issues – Ageing of Population; Declining Sex Ratio; HIV/AIDS.

Course C12

GGRM 502P2: POPULATION GEOGRAPHY (Practical)

1. **Chapma Tamuli**
2. **Prarthana Dutta**

Objective: The main objective of the course is to develop the cartographic ideas for the representation of major Demographic data.

Units:

1. Statistical Data representation Part I

- a) Near neighbour analysis
- b) Principle component analysis – Water, Fisher and Nelson
- c) Traffic flow and isochronic cartograms

2. Statistical Data representation Part II

- a) Location quotient analysis
- b) Lorenz curve

3. Distribution of population

- a) India, Assam (by simple dot method)

4. Density of population

- a) India and Assam (choropleth method)

DSE 1 (6 C)

GGRM DSE501AT6: SETTLEMENT GEOGRAPHY

- 1. Diganta Kr. Saikia**
- 2. Champa Tamuli**
- 3. Prarthana Dutta**

Objective: The objective of this course is to develop understanding of the learner about the concept, types and the classification of settlements. The course also familiarizes learners with the basic theories of market center and settlement evolution.

Units:

- Settlement: Concept, classification, distribution and the changing relationship with the environment.
- Rural settlement: evolution, site and situational factors and patterns and types.
- Urban settlement: growth, functional classification of Towns.
- Hierarchy of settlement.
- Christaller's and August Losch Theory of Market Center

DSE 2 (6 C)

GGRM DSE502BT6: AGRICULTURAL GEOGRAPHY

- 1. Diganta Kr. Saikia**
- 2. Champa Tamuli**
- 3. Prarthana Dutta**

Objective: The objective of this course to enhance the concept of agricultural activities, its determinants and types under different geo- environmental condition of the world. The course also introduces learners with some Land use and cropping intensity models.

Units:

- Defining the Field: Introduction, nature and scope; Land use/ land cover definition and classification
- Determinants of Agriculture: Physical, Technological and Institutional

3. Agricultural Regions of India: Agro-climatic, Agro-ecological & Crop Combination Regions.
4. Agricultural Systems of the World (Whittlesey's classification) and Agricultural Land use model (Von Thuenen, modification and relevance).
5. Agricultural Revolutions in India: Green, White, Blue, Pink.

Course C 13

GGRM601T6: EVOLUTION OF GEOGRAPHICAL THOUGHT (Theory)

1. Prarthana Dutta
2. Pranamee Gogoi

Objective: The objective of the course is familiarizing the learner towards the development of geographic ideas during the era of ancient, pre-modern and modern period. The course will also enlighten the learners with the contemporary issues and approaches of development of the discipline.

Units:

1. Paradigms in Geography
2. Pre-Modern – Early Origins of Geographical Thinking with reference to the Classical and Medieval Philosophies.
3. Modern – Evolution of Geographical Thinking and Disciplinary Trends in Germany, France, Britain, United States of America.
4. Debates – Environmental Determinism and Possibilism, Systematic and Regional, Ideographic and Nomeothetic.
5. Trends – Quantitative Revolution and its Impact, Behaviouralism, Systems Approach, Radicalism, Feminism; Towards Post Modernism – Changing Concept of Space in Geography, Future of Geography.

Course C14

GGRM602T6: DISASTER MANAGEMENT BASED PROJECT WORK

1. Diganta Kr. Saikia

2. **Champa Tamuli**
3. **Prarthana Dutta**
4. **Pranamee Gogoi**

Objective: The main objective of the field work is to conduct an extensive survey over an area to evaluate the nature, intensity, frequency and impact of a Hazard/ disaster and suggesting possible mitigation measures.

Units:

Unit –I: Disaster Management based Project work (Practical)

Unit- II: Field Survey

DSE 3 (6 C)

GGRM DSE 601AT6: GEOGRAPHY OF HEALTH AND WELLBEING

1. **Diganta Kr. Saikia**
2. **Champa Tamuli**

Objective: The objective of the course to conceptualize learner in the field of health and well-being, relationship between human activities, health and environment. The course also covers broad aspects of pollution, climate change and health issues in different parts of the world.

Units:

- h. Perspectives on Health: Definition; linkages with environment, development and health; driving forces in health and environmental trends - population dynamics, urbanization, poverty and inequality.
- i. Pressure on Environmental Quality and Health: Human activities and environmental pressure land use and agricultural development; industrialisation; transport and energy.
- j. Exposure and Health Risks: Air pollution; household wastes; water; housing; workplace.

- k. Health and Disease Pattern in Environmental Context with special reference to India, Types of Diseases and their regional pattern (Communicable and Lifestyle related diseases).
- l. Climate Change and Human Health: Changes in climate system – heat and cold; Biological disease agents; food production and nutrition.

DSE 4 (6 C)

GGRM DSE 602AT6: HYDROLOGY AND OCEANOGRAPHY

- 1. Diganta Kr. Saikia**
- 2. Champa Tamuli**
- 3. Pranamee Gogoi**

Objective: The main objective of this course is to enhance the students about the concept and components of hydrological cycle and its intervention by anthropogenic activities. The course also incorporates bottom configuration and ocean dynamics along with physical and chemical properties of ocean sea water.

Units:

1. Hydrological Cycle: Systems approach in hydrology, human impact on the hydrological cycle; Precipitation, interception, evaporation, evapo-transpiration, infiltration, ground-water, run off and over land flow; Hydrological input and output.
2. River Basin and Problems of Regional Hydrology: Characteristics of river basins, basin surface run-off, measurement of river discharge; floods and droughts
3. Ocean Floor Topography and Oceanic Movements – Waves, Currents and Tides.
4. Ocean Salinity and Temperature – Distribution and Determinants.
5. Coral Reefs and Marine Deposits and Ocean Resources: Types and Theories of Origin; Biotic, Mineral.