

## **FIRST SEMESTER**

### **Core Course: DSC-1A: Physical Geography**

**Total Marks: 100**

60(Th) + 20(P) + 20(IA)

Total Credit: 6 (Total Number of Classes: 60)

#### **Unit 1: Field of Geography (5 classes)**

- Nature and scope of Geography, Physical Geography and Human Geography: Nature, Contents and Interrelationship
- Earth: Chemical Composition and Interior Structure of the Earth

#### **Unit 2: Basics of Geomorphology (15 classes)**

- Types of landform – First order, second order and third order, Forces for landform development - endogenetic and exogenetic, Landform development processes-weathering, erosion, transportation and deposition
- Landform development under different conditions – fluvial, and arid
- Cycle concepts in geomorphology Weathering, Mass Wasting, Cycle of Erosion (Davis and Penck)
- Evolution of Landforms (Erosional and Depositional): Fluvial, and Aeolian

#### **Unit 3: Climatology and Oceanography (15 classes)**

- Atmosphere: Composition, Structure and Functions
- Elements of Weather: Temperature, Pressure, Wind and Humidity
- Heat Zones, Atmospheric Pressure Belt and Atmospheric Circulation; Mechanism of Monsoon
- Koppen's Climatic Classification
- Ocean Basin: Major features of the ocean floor; Coral reefs and atolls: types and factors
- Ocean Current and Tides

#### **Unit 4: Practical (12 classes)**

- Relief representation through serial profiles, superimposed profiles, composite profiles and Projected profiles.
- Demarcation of basin and representation of basin relief through profiles, interpretation.
- Drawing and analysis of Average Slope Map by Wentworth's Method
- Drawing and interpretation of rainfall-temperature-humidity graph of tropical, sub-tropical and temperate regions/stations.
- Study of weather condition depicted by Indian Weather maps and prediction of weather conditions for next 48hours.

## **THIRD SEMESTER**

### **Core Course: DSC-1C: Human Geography**

**Total Marks: 100**

60(Th) + 20(P) + 20(IA)

Total Credit: 6 (Total Number of Classes: 60)

#### **Unit 1: Nature, Scope and Development of Human Geography (12Classes)**

- Meaning, Scope, Branches and Approaches of Human Geography
- Impact of environment on man; Human adaptation to environment: Eskimo, and Bushman; Mode of living and emerging problems in different environments: cold desert, mountain, and plain

#### **Unit 2: Population Geography (12 Classes)**

- Components of population growth; factors influencing distribution and density of population
- Definition, types, and causes and consequences of migration
- Malthus theory of population growth; and Demographic Transition Model.

#### **Unit 3: Settlement Geography (6 classes)**

- Meaning and scope of settlement geography.
- Factors influencing origin and growth of rural and urban settlements.

#### **Unit 4: Practical (15 Classes)**

- Mapping of major racial groups in the world.
- Mapping of linguistic regions in the world.
- Trend of world population growth
- Age-Sex pyramid
- Mapping Settlement Types and Pattern
- Determination of Spatial Mean and Median Centres of Settlements

Skill Enhancement Course

**Skill Enhancement Course: SEC-1: Statistical Methods in Geography**

**Total Marks: 50 - 40 (Th) + 10 (IA)**

**Total Credit: 2 (Total Number of Classes: 30)**

**Unit 1: Nature of Geographic Data (18 classes)**

- Use of Data in Geography, Geographical Data Matrix, Significance of Statistical Methods in Geography; Sources of Data, Scales of Measurement (Nominal, Ordinal, Interval, Ratio).
- Tabulation and Descriptive Statistics their use in Geography: Frequencies, Cross Tabulation, Measures of Central Tendency (Mean, Median and Mode) Measures of Dispersion (Range, Standard Deviation and Relative Dispersion)

**Unit 2: Quantitative Expression of Geographic Data (10 classes)**

- Use of Sampling Technique in Geography, Method of Sampling (Purposive, Random, Systematic and Stratified)
- Correlation (Karl Pearson and Spearman's Rank method) and Regression analysis

FIFTH SEMESTER

**Discipline Specific Elective: DSE-1A: Soil and Biogeography**

**Total Marks: 100**

60(Th)+20(P)+20(IA)

Total Credit: 6 (Total Number of Classes: 60)

**Unit 1: Nature and Scope of Soil Geography (15 classes)**

- Definition and Scope of Soil Geography, Soil Formation, Characteristics and Properties
- Soil profile (Soil horizon) – their characteristics and significance; factors of soil formation;

**Unit 2: Soil and Land Management (12 classes)**

- Physical and Chemical properties of soil: Soil texture, Structure and Moisture, Soil colour, pH value, Organic Matter and NPK.
- Processes and Controlling factors of soil erosion

**Unit 3: Concepts of Biogeography (12 classes)**

- Definition and scope of biogeography, Concept and Components of Biosphere, vertical and horizontal limits of biosphere;
- Concept of Ecology and Ecosystem, Types of Ecosystem, Trophic Structure, Food Chain and Food Web, Energy flow in Ecosystem.
- Concept of biodiversity, its types and conservational issues, Nature and distribution of biodiversity in N.E. India and Assam; Man as an agent of environmental/ecological change

**Unit 4: Practical (12 classes)**

- Construction and interpretation of soil profile with the data derived from the field (college campus/ river site/ foot hill, etc.)
- Drawing and interpretation of soil map of India/North East India
- Mapping of vegetation of India/north east India, Representation of soil-vegetation relationship along selected cross-section of India and North-East India  
Biogeographic regions of the world
- Mapping of the national parks and sanctuaries of India with the major species therein.

**(Same changes to be made as in Core Course: DSC-1A: Physical Geography for 1<sup>st</sup> Semester)**

**Generic Elective: GE-1: Physical Geography Total Marks: 100**

60(Th) + 20(P) + 20(IA)

Total Credit: 6 (Total Number of Classes: 60)

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**Skill Enhancement Course: SEC-3: Basics of Remote Sensing (RS) and  
Geographic Information System (GIS)**

**Total Marks: 50**

30 (Th) + 10 (Pr) +10 (IA)

Total Credit: 2 (Total Number of Classes: 30)

**Unit 1: Fundamentals of Remote Sensing and GIS (12 classes)**

- Remote Sensing and GIS: Definition, Components and Principles
- Remote Sensing, Platforms and Types, Global Positioning System (GPS ) Principles and application
- Aerial Photography: Types, Satellites (Landsat and IRS) and Sensors, Type of resolution.

**Unit 2: Geographic Information System (10 classes)**

- GIS Data Structures: Types (spatial and Non-spatial), Raster and Vector Data Structure
- Elements of Image interpretation and application of Remote Sensing and GIS: Land use/ Land Cover, Urban Sprawl Analysis; Forests Monitoring.

**Unit 3: Practical (8 classes)**

- Geo-Referencing the map/Toposheet, Drawing base map from Satelliteimagery/Toposheet,
- Mapping point, line and polygon features, Land use/ Land Cover mapping (Supervised and Un- supervised), Isopleths, Choropleth and Chorochromatic mapping