

LESSON PLAN
1ST SEMESTER
GEOGRAPHY (MINOR)
SESSION: 2023-2024

GEOHM01T/ GEOMC01T - PHYSICAL GEOGRAPHY

COURSE COORDINATOR: DR.MADHAB MONDAL

TEACHER: DR.MADHAB MONDAL, DR, ADITI MATILAL, PROF. MOUSUME GHOSH

COURSE OUTCOME:

1. Students will be able to understand the basic concepts of Physical Geography, with emphasis on internal structure of earth based on seismic evidence, lithology of land form, landform development etc.
2. Students will be able to classify the deferent type of hazards and disasters in Indian perspectives.
3. Students will develop ideas on and concepts of atmospheric layering distribution of pressure belts and planetary wind system etc
4. Students will be able to understand the factors of soil formation, the evolution of an ideal soil profile.
5. Students will understand the fundamental concept of ecology and biomes.

| MONTH | TEACHER | HOURS | TOPIC |
|-----------|---------|------------|--|
| August | MM | 4 | Internal Structure of Earth Based on Seismic Evidence |
| | | 3 | Influence of lithology on land forms |
| September | | 3 | Granite land forms cont. |
| | | 3 | Granite land forms , Basaltic landforms cont. |
| October | | 2 | Basaltic landforms and Revision |
| | | 1 | Class test |
| November | | 2 | Factors controlling landform development: endogenetic & exogenetic force |
| | | 2 | Temperate Grassland Biome cont. |
| December | | 2 | Temperate Grassland Biome |
| | | 2 | Evolution of land forms under fluvial process |
| | 1 | Class test | |
| | 1 | Revision | |
| | 1 | Revision | |

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| August | AM | 3 | Nature of classification of hazards in Indian context |
| September | | 1 | Jet stream |
| | | 1 | Nature and composition and layering of the atmosphere |
| | | 1 | Index cycle |
| September | | 1 | Distribution of pressure belts planetary wind system |
| October | | 1 | Revision |
| November | | | |
| December | | 1 | Concept of Biome, Tropical rain forest |
| | | 1 | Class test |
| | | 1 | Quiz |
| August | MG | 1 | Factors of soil formation |
| | | 3 | Evolution of an ideal soil profile |
| | | 1 | Concept of ecosystem |
| September | | 4 | Basic ecological principles, Ecotone |
| | | 5 | Communities, niche |
| October | | 3 | Succession and Habitat |
| | | 2 | Taiga Biome |
| November | | 4 | Savannah Biome |
| December | | 4 | Desert Biome |
| | | 3 | Tundra Biome |

GEOGRAPHY GENERAL LESSION PLAN

SESSION 2023-2024

3RD SEMESTER

GEOGCO3T - GENERAL CARTOGRAPHY

COURSE COORDINATOR – PROF.MADHAB MONDAL

TEACHER- PROF. MOUSUME GHOSH, DR. ADITI MATILAL, PROF. SUSMITA

HALDER, DR.RAJAT HALDER

COURS OUTCOME:

1. Understand the significance of utilization of cartographic techniques in geography.
2. Explain the theoretical perspectives of each cartographic technique used.
3. Develops idea on fundamental concepts of map projections, their classification, properties, and uses.
4. Students will be able the concept of map scale and its types and application.
5. Students will be able the concept old and open series topographical map and date representation like symbols, dots, choropleth etc.

| MONTH | TEACHER | HOURS | TOPIC | Remarks |
|-----------|---------|-------|---|---|
| September | MG | 2 | Concept of map scale Types of map scale | Mode of teaching: offline (PowerPoint presentations will be used occasionally or wherever necessary |
| October | | 1 | Application of map scale ,Reading distance on a map | |
| | | 1 | Concept of map projection | |
| November | | 1 | Criteria for choice of projection ,Attributes and properties of Zenithal Gnomonic | |
| December | | 1 | Zenithal stereographic polar Case | |
| | | 1 | Internal assessment | |
| | | 1 | Cylindrical equal area Projection | |

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|-----------|----|---|------------------------------|---------|
| September | AM | 1 | Polar Case | Remarks |
| October | | 1 | Concept of topographical map | Mode of |

| | | | | |
|-----------|----|---|---|--|
| | | 1 | Old and open series map | teaching: offline (PowerPoint presentations will be used occasionally or wherever necessary) |
| | | 1 | Symbols, Dots, | |
| November | | 1 | Calculation of Choropleth | |
| December | | 1 | Drawing of Choropleth | |
| | | 1 | Internal Assessment | |
| September | SH | 1 | Concept of Thematic map ,Calculation and interpretation of Thematic map | |
| October | | 2 | Isopleth | |
| November | | 1 | Revision | |
| December | | 2 | Internal assessment | |
| September | RH | 1 | Bonne's Projection | |
| October | | 1 | Flow diagram | |
| November | | 1 | Revision of Bonne's Projection | |
| December | | 1 | Revision of Flow diagram | |

GEOGCORO3P - GENERAL CARTOGRAPHY
COURSE COORDINATOR– PROF. MOUSUME GHOSH
TEACHER- DR. RAJAT HALDER, DR. ADITI MATILAL, PROF. MOUSUME GHOSH.

COURSE OUTCOME:

1. Students will get hand hold knowledge about the scale, projection construction.
2. Students will understand about the differences among the scales as well as among the projections and also their applicability.
3. The concept of drainage basin delineation, relative relief, slope map, stream ordering, will help student for drainage basin management.

| MONTH | TEACHER | HOURS | TOPIC | Remarks |
|-----------|---------|-------|--------------|-------------------|
| September | MG | 1 | Linear scale | Mode of teaching: |

| | | | | |
|-----------|----|---|--|---|
| October | | 1 | Comparative Linear scale | offline (PowerPoint presentations will be used occasionally or wherever necessary) |
| November | | 1 | Zenithal Gnomonic polar case | |
| December | | 1 | Zenithal Stereographic Polar case | |
| September | AM | 1 | Cylindrical equal area projection | |
| October | | 1 | Mercator's Projection | |
| November | | 1 | Bone's projection | |
| December | | 1 | Internal Assesment | |
| September | RH | 1 | Relief profile- superimposed, projected, composite | |
| October | | 1 | Relative relief | |
| November | | 1 | Slope map | |
| December | | 1 | Transect chart | |

REMOTE SENSING (GEOGSSECO1M)

Course Coordinator: Prof. Mousume Ghosh

Teacher- Prof. Deepika Mondal

COURSE OUTCOME

1. Understand the basic principles of Remote Sensing, Types of RS satellites and sensors.
2. Elucidate sensor resolutions and their applications with reference to IRS and Landsat mission
3. Prepare False Colour Composites from IRS LISS-3 and Landsat TM and OLI data.
4. Explain the principles of image correction and interpretation
5. Prepare inventories of land use land cover (LULC) features from satellite images.
6. Explain concept of GIS and its applicability with emphasis on GIS data structures: types: spatial and non-spatial, raster and vector
7. Identify principles of GNSS positioning and waypoint collection and transferring waypoints to GIS and ability to perform area and length calculations from GNSS data
8. Geo referencing of maps and images using Open Source software (QGIS), preparation of FCC and identification of features using standard FCC and other band combinations.
9. Perform digitization of features, data attachment, overlay and preparation of annotated

thematic maps (choropleth, pie chart and bar graphs)

| Month | Teacher | Hours | Topic | Remarks |
|-------|---------|-------|--|--|
| SEP | DM | 1 | Principles of Remote Sensing (RS): | Mode of teaching: offline (PowerPoint presentations will be used occasionally or wherever necessary) |
| | | 1 | Classification of RS satellites and sensors | |
| OCT | DM | 1 | Sensor resolutions and their applications with reference to IRS and Land sat missions, | |
| | | 1 | Image referencing schemes and data acquisition. | |
| | | 1 | Preparation of False Color Composites from IRS LISS-3 | |
| NOV | DM | 1 | Land sat TM and OLI data. | |
| | | 1 | Principles of image rectification and enhancement. | |
| DEC | DM | 1 | Principles of image interpretation and feature extraction | |
| | | 1 | Preparation of inventories of land use features from satellite images | |
| | | 1 | Preparation of inventories of Land cover features from satellite images | |

GEOGRAPHY GENERAL LESSION PLAN

SESSION 2023-24

5TH SEMESTER

GEOGDSEO1T –SOIL AND BIO GEOGRAPHY

COURSE COORDINATOR –PROF. RAJAT HALDER

TEACHER- PROF.MOUSUME GHOSH, DR.RAJAT HALDER, DR. MADHAB

MONDAL, PROF. SUSMITA HALDER

COURSE OUTCOME:

1. Identify the factors of soil formation and nature of soil profile, with special reference to lateritic, podzol and chernozem soils.
2. Understand the definition and significance of soil properties (Texture, structure and moisture, pH, organic matter)
3. Describe the Genetic and USD A principles of soil classification and concept of land capability and its classification
4. Understand the concept of biosphere, ecosystem, biome, eco-tone, community, niche, succession and ecology, tropic structure, food chain and food web, energy flow in ecosystems, bio-geochemical cycles
5. Explain the geographical extent and characteristic features of Tropical rain forest, Taiga and Grassland biomes

| MONTH | TEACHER | HOURS | TOPIC | Remarks |
|-----------|---------|-------|---|--|
| September | MG | 4 | Factors of soil formation | Mode of teaching: offline (PowerPoint presentations will be used occasionally or wherever necessary) |
| October | | 2 | Soil profile | |
| | | 2 | Origin and profile characteristics of lateritic soil | |
| | | 2 | Origin and profile characteristics of chernozem soil. | |
| | | 1 | Definition and signification of soil properties | |
| November | | 2 | Soil texture | |
| December | | 2 | Soil structure | |
| | | 2 | Soil Moisture | |
| | | 2 | Internal Assessment | |
| September | | RH | 1 | |

| | | | |
|-----------|----|---|--|
| October | | 1 | Soil organic matter |
| | | 1 | Principles of soil classification; genetic and USDA |
| November | | 1 | Concept of land capability and its classification |
| December | | 2 | Internal Assessment |
| September | MM | 1 | Concept of Biosphere, ecosystem, |
| October | | 2 | Community, nichs And succession |
| November | | 1 | Biome, ecotone, |
| December | | 1 | Food chain |
| | | | Food Web |
| September | SH | 2 | Geographical extent and characteristic features of: Tropical rain forest |
| October | | 1 | Grassland biome |
| November | | 2 | Concept of bio-geochemical cycles, carbon dioxide |
| December | | 1 | Nitrogen |
| | | 1 | Internal Assessment |