LESSON PLAN
GEOGRAPHY GENERAL
SESSION: 2021-2022
(ODD-SEMESTER)

SEMESTER	COURSE CODE	COURSE NAME	CREDIT	MARKS	ALLOTED CLASSES ACCORDING TO SYLLABUS
1ST	GEOGCORO1T	PHYSICAL GEOGRAPHY	06	75	90
3RD	GEOGCORO3T	GENERALCARTOGRAPHY	04	50	60
	GEOGCORO3P	GENERAL CARTOGRAPHY(LAB)	02	25	60
	GEOSSEC01M	REMOTE SENSING	02	25	60
5TH	GEOGDSE01T	SOIL AND BIOGEOGRAPHY	06	75	90
2ND	GEOGCORO2T	HUMAN GEOGRAPHY	06	75	90
4TH	GEOGCORO4T	ENVIRONMENTAL GEOGRAPHY	02	25	60
	GEOSSECO2M	ADVANCE SPATIAL STATISTICAL TECHNIQUES	06	75	60
6TH	GEOGDSE04P	PROJECT REPORT	06	75	90

1ST SEMESTER

PHYSICAL GEOGRAPHY (GEOGCOR01T)

COURSE OUTCOME:

1. Understand physical Geography, its definition and scope, components of Earth System, earth's internal structure based on seismic evidence, plate tectonics and its associated features.
2. Describe the influence of lime stone and granitic rocks on topography and elucidate evolution of landforms under fluvial, coastal and Aeolian processes.
3. Explain insolation and heat Balance with special reference to horizontal and vertical distribution of temperature and pressure.

4. Understand planetary wind system and characteristics of Monsoon and Tropical Cyclone.
5. Classify climatic after Köppen.
6. Describe hydrological Cycle, ocean bottom relief features and ocean currents.

Course Coordinator: Prof. Suryadeb Gowasami
Teacher: Prof. Mousume Ghosh (MG), Pradipta Prakash Roy (PPR), Surya Dev Goswami (SDG)

MONTH	TEACHER	HOURS	TOPIC
OCTOBER	MG	2	Definition and scope of physical geography Components of earth system
		2	Land Forms Under Fluvial Process
		1	Internal structure of earth based on seismic evidence
NOVEMBER	MG	1	Theory of plate tectonics
		1	Plate tectonics and its associated features
		1	Landforms under fluvial process
		1	Planetary wind system
		1	Characteristic of Monsoon
		1	Tropical cyclone
DECEMBER	MG	2	Revision
		2	Class test
		2	Revision of Earth System
		1	Revision of Plate tectonic
October	PPR	1	Concept of Normal Cycle of erosion
		1	Normal Cycle of erosion of Davis
		1	Formation of Erosional Land forms of Aeolian processes
		1	Depositional Land forms of Aeolian processes
November	PPR	1	Concept of Normal Cycle of erosion
		1	Normal Cycle of erosion of Davis
		1	Depositional Land forms of Aeolian processes
		1	Formation of Erosional Land forms of Aeolian processes
December	PPR	1	Ocean bottoms relief features
		1	Hydrological Cycle
		1	Ocean bottom relief features
		1	Ocean currents
		1	Ocean currents

		1	Revision
		1	Revision
October	SDG	1	Concept of Insolation
		1	Factors of Insolation
		1	Heat Balance
		1	Relation of Insolation With heat balance
		1	Revision
November	SDG	1	Insolation
		1	Heat Balance
		1	Horizontal distribution of temperature
		1	Vertical Distribution of temperature
		1	Horizontal & Vertical Distribution of Pressure
		1	Revision
December	SDG	1	Revision of Insolation
		1	Revision of Heat Balance
		1	Discussion
		1	Revision
		1	Revision of Horizontal distribution of Temperature
		1	Revision of Vertical Distribution of temperature
		1	Revision

3RD SEMESTER

GENERAL CARTOGRAPHY (GEOGCORO3T)

Course Outcome:

1. Explain the concept of map scale with reference to their classification, application and graphical construction.
2. Classify map projections distinguish their attributes, properties, application and perform their mathematical calculations and graphical representations.
3. Understand the concept of UTM projection.
4. Understand the reference scheme of old and open series maps of Survey of India topographical maps, construct and interpret relief profiles, relative relief map, slope map (Wentworth), and represent the correlation between physical and cultural features from Survey of India topographical maps using transect chart.
5. Understand the importance of data representation through symbols, dots, choropleth, isopleths, and flow diagrams with emphasis on their calculations, diagrammatic representation and interpretation.

COURSE COORDINATOR: Suryadeb Gowasami
Teacher: Pradipta Prakash Roy (PPR), Suryadeb Gowasami (SDG)

MONTH	TEACHER	HOURS	TOPIC
September	PPR	2	Concept of map scale
		2	Types of map scale
		2	Application of map scale
		2	Reading distance on a map
		1	Concept of map projection
October	PPR	1	Criteria for choice of projection
		2	Attributes and properties of Zenithal Gnomonic Polar Case
		1	Zenithal stereographic polar Case
		1	Revision
November	PPR	2	Internal assessment
		1	Cylindrical equal area Projection
		2	Bonne's Projection
December	PPR	2	Revision
		2	Revision of Projection
		2	Revision of Types of map scale
		1	Discussion
September	SDG	2	Concept of topographical map
		2	Old and open series map
		2	Symbols, Dots,
		2	Revision
		1	Revision
October	SDG	2	Calculation of Choropleth
		2	Drawing of Choropleth
		1	Isopleths
November	SDG	2	Flow diagram
		2	Concept of Thematic map & Calculation and interpretation of Thematic map
December	SDG	2	Revision of topographical map
		2	Revision of flow diagram
		2	Revision of Symbols, Dots,
		2	Revision of Choropleth

GENERAL CARTOGRAPHY (GEOGCORO3P)

Course Outcome:

1. Students will get hand hold knowledge about the scale, projection construction.
2. Students will understand about the differences among the scales and its applications.
3. Learn about the application of projections for map making.
4. Understand the reference system topographical map.
5. The concept of drainage basin delineation, relative relief, slope map, stream ordering, will help student for drainage basin management.

COURSE COORDINATOR: Pradipta Prakash Roy (PPR)
Teacher: Mousume Ghosh (MG)

MONTH	TEACHER	HOURS	TOPIC
September	MG	2	Graphical constructions of plain scale
		2	Comparative Linear scale
		2	Zenithal Gnomonic polar case
		1	Zenithal stereographic polar case
October	MG	2	Cylindrical equal area
		2	Revision
		2	Bonne's Projection
November	MG	2	Concept of topographical map
		2	Relative relief
		1	Slope map
December	MG	2	Correlation between physical and cultural features & Transect chart
		2	Transect chart
		2	Revision of Comparative Linear scale
		1	Revision of Bonne's Projection

REMOTE SENSING (GEOGSSEC01M)

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 Land sat missions.
3. Prepare False Color Composites from IRS LISS-3 and Land sat TM and OLI data.
4. Explain the principles of image correction and interpretation, prepare inventories of land use land cover (LULC) features from satellite images and **ex**plain the concept of GIS and its applicability with emphasis on GIS data structures: types: spatial and non-spatial, raster and vector.
5. Identify principles of GNSS positioning and way point collection and transferring waypoints to GIS and ability to perform area and length calculations from GNSS data.

COURSE COORDINATOR: Mousume Ghosh (MG)
Teacher: Deepika Mondal (DM)

MONTH	TEACHER	HOURS	TOPIC
JUIY	DM	1	Principles of Remote Sensing (RS):
		1	Classification of RS satellites and sensors
AUGUST	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
SEPTEMBER	DM	1	Land sat TM and OLI data.
		1	Principles of image rectification and enhancement.
		1	Class test
NOVEMBER	DM	1	Principles of image interpretation and feature extraction
		2	Preparation of inventories of land use features from satellite images
		2	Preparation of inventories of Land cover features from satellite images
DECEMBER	DM	1	Revision of land use map
		1	Revision of land cover map
		1	Class test

5TH SEMESTER

SOIL AND BIO GEOGRAPHY (GEOGDSEO1T)

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 and NPK).
3. Identify the factors, processes and mitigation measures soil erosion and degradation.
4. Describe the Genetic and USD a principles of soil classification and concept of land capability and its classification.
5. 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.

COURSE COORDINATOR: Pradipta Prakash Roy (PPR)
Teacher: Mousume Ghosh (MG), Pradipta Prakash Roy (PPR), Surya Dev Ghoswami (SDG)

MONTH	TEACHER	HOURS	TOPIC
September	MG	2	Factors of soil formation
		2	Soil profile
		2	Origin of lateritic soil
		2	characteristic of lateritic soil
		1	Origin of charnozem soil
October	MG	2	characteristic of charnozem soil
		2	Definition and significance of soil profile & Soil texture
		1	Soil structure
November	MG	2	Soil Moisture
		2	Soil ph
December	MG	2	Soil organic matter
		2	Revision of Soil profile
		2	Revision of lateritic soil
		2	Revision of charnozem soil
September	PPR	2	Concept of Biome
		2	Tropical rainforest biome
		1	Tropical grassland biome
October	PPR	2	Concept of Bio-geochemical cycle
		2	Nitrogen Cycle
		2	Carbon dioxide Cycle
November	PPR	2	Revision of Tropical rainforest biome

		2	Revision of Tropical grassland biome
		2	Nitrogen Cycle
December	PPR	2	Internal Assessment
		2	Revision of Carbon dioxide Cycle
		2	Discursion
		2	Revision of Nitrogen Cycle
September	SDG	2	Principals of soil classification
		2	Principals of soil classification of genetic
		2	Principals of soil classification of USDA
		2	Concept of land capability
		1	Classification of land capability
October	SDG	2	Concept of biosphere
		2	Ecosystem
		1	Biome
		1	Ecotone
November	SDG	2	Discussion
		2	Succession
		1	Ecological niche
		1	Concept of Food chain
		1	Food web
December	SDG	2	Energy flow
		2	Revision of Classification of land capability
		2	Revision Principals of soil classification
		2	Revision biosphere
		1	Revision Ecosystem

LESSON PLAN
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(EVEN -SEMESTER)

2ND SEMESTER

HUMAN GEOGRAPHY (GEOGCORO2T)

Course Outcome:

1. Student will able to interpret about the impact of environment on human society.

2. In future student will be able to plan of new urban site based on urban morphology.

3. Student will be able to scientific discussion about the heterogeneity of races, ethnicity etc.

4. Student will able to realize about the evolution of human society therefore be able to show respect every human society.

5. Student will be able to find out the proper location for a new settlement.

COURSE COORDINATOR: Pradipta Prakash Roy(PPR)

Teacher: Mousume Ghosh (MG), Pradipta Praksh Roy (PPR), Surya Dev Goswami (SDG)

MONTH	TEACHER	HOURS	TOPIC
APRIL	MG	2	Factors of growth of world population
		2	Distribution of world population
		2	Demographic Transition theory
		2	Discursion
MAY	MG	2	World population composition : age
		2	Gender
		2	Literacy
		2	Types of migration
		1	Migration : causes & consequences
JUNE	MG	2	Revision of Factors of growth of world population
		2	Revision of Distribution of world population
		2	Revision of Demographic Transition theory
		2	Revision of Migration : causes & consequences
JULY	MG	2	Types of rural settlement
		2	Patterns of rural settlement
		2	Revision of Types of rural settlement
		1	Revision of Patterns of rural settlement
AUGUST	MG	2	Discussion
APRIL	PPR	2	Concept of space & society
		2	Cultural region
		2	Race
MAY	PPR	2	Religion
		2	Language
		2	Revision of Cultural region
JUNE	PPR	2	Revision of Race
		2	Revision of Religion
		2	Literacy
		2	Poverty
		1	Revision of Literacy
JULY	PPR	2	Sectors of economy : Primary
		2	Secondary

		2	Tertiary
		2	Quaternary
AUGUST	PPR	2	Discussion
APRIL	SDG	2	Definition of Agricultural, Types of agricultural
		2	Intensive subsistence rice farming
		2	Tea plantation
		2	Coffee plantation
MAY	SDG	2	Location of Indian Industry : Cotton textile
		2	Problems and prospects of cotton textile
		2	Location of Indian Industry: Petroleum refining
		1	Problems and prospects of Petroleum refining
JUNE	SDG	2	Location of Indian Industry: Locomotive
		2	Problems and prospects of Locomotive
		2	Revision of Tea plantation
		2	Revision of Coffee plantation
		1	Revision of Cotton textile
JULY	SDG	2	Classification of urban settlements
		2	Trend
		2	Patterns of world Urbanization
		2	Revision of Petroleum refining
		1	Revision of Locomotive
AUGUST	SDG	2	Revision of Trend & Patterns of world Urbanization

4TH SEMESTER

ENVIRONMENTAL GEOGRAPHY (GEOGCOR04T)

Course Outcome:

1. Identify geographers' approach to environmental studies and acquire comprehensive knowledge about the concept of holistic environment and systems approach
2. Understand the concept structure and functions of ecosystem
3. Delineate the space-time hierarchy of Environmental problems at local, regional and global scales
4. Identify different environmental issues with special reference to the causes and consequences of land, water and air pollution and degradation, waste management
5. Elucidate important environmental policies viz. National Environmental Policy (2006), Earth Summits (Stockholm, Rio, Johannesburg) and Global initiatives for environmental management (special reference to Montreal Protocol, Kyoto Protocol, Paris Climate Summit)
6. Acquire skills of conducting perception survey on environmental problems and acquire

knowledge on environmental impact assessment and air quality.

7. Identify the check-list for environmental impact assessment of an urban / industrial project and interpret air quality using CPCB / WBPCB data.

COURSE COORDINATOR: Pradiptaprakash Roy (PPR)
Teacher: Mousume Ghosh (MG)

MONTH	TEACHER	HOURS	TOPIC
APRIL	MG	2	Human environmental relationship in equatorial
		2	Human environmental relationship in Desert
		2	Human environmental relationship in coastal region
		2	Revision of Human environmental relationship in equatorial
MAY	MG	2	Revision of Human environmental relationship in Desert
		2	Revision of Human environmental relationship in coastal region
		2	Concept of holistic environment and system approach
		1	Concept of holistic environment and system approach
JUNE	MG	4	Revision
JULY	MG	2	Concept of holistic environment and system approach
		2	Revision
AUGUEST	MG	5	Revision
APRIL	PPR	2	Concept of ecosystem
		2	Structure
		2	Functions of ecosystem
		2	Revision
MAY	PPR	2	Concept of Environmental problems & management
		2	Biodiversity loss
		2	Solid & liquid Waste
		1	Solid & liquid Waste
JUNE	PPR	2	Structure of ecosystem
		2	Functions of ecosystem
		4	Discussion
JULY	PPR	2	Biodiversity loss
		2	Solid & liquid Waste
		2	Discussion
AUGUST	PPR	2	Revision
APRIL	SDG	2	Concept of environmental problem & management
		2	Desertification
		2	Revision
MAY	SDG	2	Soil erosion

		2	Revision
		2	Discursion
JUNE	SDG	2	New environmental policy of India, 2006
		2	New environmental policy of India, 2006
		2	Desertification
		2	Soil erosion
		1	Discussion
JULY	SDG	2	New environmental policy of India, 2006
		4	Revision
AUGUST	SDG	2	Discussion

ADVANCED SPATIAL STATISTICAL TECHNIQUES (GEOSSECO2M)

Course Outcome:

1. Understand probability theory, probability density functions with respect to Normal, Binomial and poison distributions and their geographical applications.
2. Understand sampling, sampling plans for spatial and non-spatial data, sampling distributions, sampling estimates for large and small samples tests involving means and proportions
3. Perform correlation and regression analysis with special reference to rank order correlation and product moment correlation, linear regression, residuals from regression, simple curvilinear regression and multi-variate
4. Perform time series analysis with emphasis on time Series processes, smoothing time series, and time series components.
5. Know about the implication of statistics in Geography.

COURSE COORDINATOR: Dr. Rajat Halder (RH)

Teacher: Prof Mousume Ghosh (MG), Suryadev Ghoswami (SDG), Pradipta Prakash Roy (PPR)

MONTH	HOURS	TEACHER	TOPIC
FEBUARY	2	MG	Concept of time series analysis
	1		Time series components

MARCH	2	MG	3 years moving average method
	2		3 years moving average method
	2		Semi average method
	2		Semi average method
	1		Revision
APRIL	2	MG	4 years moving average method
	2	MG	4 years moving average method
	2		Revision
	2		5 years moving average method
MAY	2	MG	5 years moving average method
	2		Practice class
	1		Class test
JUNE	2	MG	Practice : 3 years moving average method
	1		Practice :4 years moving average method
	2		Internal
FEBUARY	1	SDG	Concept of probability theory
	1		Probability density functions with respect to normal
MARCH	2	SDG	Probability density functions with respect to binominal
	2		Probability density functions with respect to poisson distribution
	2		Geographical application of normal distribution of probability
	2		Geographical application of binomial l distribution of probability
	1		Geographical application of poission l distribution of probability
APRIL	2	SDG	Sampling plans for spatial and non spatial data
	2		Sample distribution
	2		Sampling estimates for large and small samples tests involving means and proportions
	1		Sampling estimates for large and small samples tests involving means and proportions
MAY	2	SDG	Revision of probability density functions with respect to normal
	2		Revision of probability density functions with respect to binominal
	2		Revision of probability density functions with respect to poison distribution
	1		Class test
JUNE	2	SDG	Internal
	2		Revision of sample distribution
	1		Revision of probability theory
FEBUARY	1	PPR	Concept of correlation and regression analysis
MARCH	2	PPR	Rank order correlation and product moment correlation

	1		Liner regression
APRIL	2	PPR	Residuals from regression
	2		Simple curvilinear regression
MAY	2	PPR	Introduction to multi variate analysis
	2		Revision residuals from regression
JUNE	1	PPR	Revision of rank order correlation and product moment correlation
	1		Internal

6TH SEMESTER

PROJECT REPORT BASED ON FIELD WORK (GEOGGDSE04P)

COURSE OUTCOME:

1. Student will be able to select the study area based on the discussion in the class room.
2. Students will be able to learn about the techniques of primary data collection.
3. Students will be able to learn about the techniques of preparation of field report.
4. Students will be able to learn to work in a group.
5. Learn about methodology of field report writing.

COURSE COORDINATOR: Pradipta Prakash Roy (PPR)
Teacher: Mousume Ghosh (MG)

MONTH	TEACHER	HOURS	TOPIC
APRIL	MG	2	Selection of the study area, objectives
		2	Methodology
		2	Location map
MAY	MG	2	Climate of north 24 pgs district
		2	Rainfall and Temperature

		2	Humidity, cloudiness & special weather phenomena.
JUNE	MG	2	Topographical map
		2	Vegetation cover map
		2	Drainage Network map
		2	Hydrological map : North 24 pgs district
		1	Geological map
JULY	MG	2	Interpretation of geological map
		2	Interpretation of Topographical map
		2	Interpretation of Vegetation map & Drainage map.
		2	Interpretation of hydrological map
AUGUST	MG	2	Problem discursion & Check all sheets
APRIL	SDG	2	Work Participation rate of North 24 pgs on bar graph
		2	Main and marginal workers -2011 on bar graph
		2	Nature of occupation of north 24 pgs on Pie chart
		1	Male and female work participation rate of Sangrampur
MAY	SDG	2	Interpretation of Work Participation rate of North 24 pgs on bar graph
		2	Interpretation of Main and marginal workers -2011 on bar graph
		2	Interpretation of nature of occupation of North 24 Pgs on Pie chart
		2	Check sheets
		1	Check sheets
JUNE	SDG	2	Land use map
		2	Interpretation of land use map
		2	Land cover map
		2	Interpretation of land cover map
JULY	SDG	2	Check sheets
		2	Percentage of Land cover and Land use area by bar graph
		2	Interpretation and check sheets
AUGUST	SDG	2	Conclusion