

**Department of Geography**

**Programme Outcome(PO)- Programme Specific Outcome (PSO)- Course Outcome (CO)**

**Programme Outcome (PO) – It is expected that on completion of the Geography General Graduate Programme**

**Learner would**

1. Students will develop a solid understanding of the concepts of “space,” “place” and “region” and their importance in explaining world affairs
2. Students will understand the key concepts in physical geography of environmental systems, process linkages, variable scale, and "cause and effect" and how they relate to the influence of climate, geology, and human activities in shaping the earth surface
3. Students will be able to use the scientific method including critical thinking, sampling, hypothesis formulation and testing, and controlled experimentation to assess environmental problems, and be able to effectively communicate research objectives, methodology, results, interpretations, and conclusions in oral and written formats
4. Students will be able to present completed research, including an explanation of methodology and scholarly discussion, both orally and in written form and, wherever possible, utilize cartographic tools and other visual formats
5. Students will have a general understanding of the various theoretical and methodological approaches in both physical and human geography and be able to develop research questions and critically analyze both qualitative and quantitative data to answer those questions
6. Students will have a general understanding of physical geographic processes, the global distribution of landforms and ecosystems, and the role of the physical environment on human populations
7. Students will acquire an understanding of and appreciation for the relationship between geography and culture
8. Students will develop the ethical aptitudes and dispositions necessary to acquire and hold leadership positions in industry, government, and professional organizations

**Programme Specific Outcome (PSO) – An general graduate of Geography of the college should possess the capability to**

**Learner would**

1. Student will have a general understanding about the geomorphological and geotechnical process and formation.
2. Familiarity with major theories, methods, and Practical concepts in the subject.
3. Student will be able to analyses the problems of physical as well as cultural environments.
4. Students will be able to learn the application of various modern instruments and by these they will be able to collect primary data.
5. They will learn how to prepare map based on GIS by using the modern geographical map making techniques.
6. They will be capable to develop their observation power through field experience and in future they will be able to identify the socio-environmental problems of a locality.
7. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
8. Understand the impact of the acquired knowledge in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.
9. They will be able to acquire the knowledge of Human Geography and will correlate it with their practical life.
10. Student will have a general understanding about the ocean circulation system.
11. Able to skilled about coastal management, resilience and sustainability with proper research.

Name of The paper	Module and Topic	Module Specific Course Outcome
GEO-G-CC-1-01-TH Physical Geography	<p style="text-align: center;"><b>Module: I - Geotectonic</b></p> <p><b>1. Interior of the earth</b> Key concept: ➤ Structure of <b>earth interior</b> ➤ Earthquake waves and movement</p>	<p><b>Students would learn</b> CO 1. To study about the earth interior with their composition CO 2. To know how earthquake waves are move in the earth interior and its significance</p>
	<p><b>2. Tectonic theories</b> Key concept: ➤ Plate Tectonics theory ➤ Sea floor spreading theory ➤ Major relief</p>	<p><b>Students would learn</b> CO 3. To study of plate tectonic theory and associated relief feature CO 4. To learn about sea floor spreading process and how it formed different landform beneath of ocean surface CO 5. To know how different continent were formed with special reference of continental drift theory</p>
	<p><b>3. Folds and faults</b> Key concept: ➤ Classification of fold and fault ➤ Surface expression of fold fault</p>	<p><b>Students would learn</b> CO 6. Study of identification of fold and fault structure CO 7. To learn the classification of fold and fault CO 8. To study the formation of major relief feature due to fold and fault</p>
	<p style="text-align: center;"><b>Module: II - Geomorphology</b></p> <p><b>4. Degradation processes</b> Key concept: ➤ Weathering ➤ Mass wasting ➤ Resultant landforms</p>	<p><b>Students would learn</b> CO 1. To understand the process of weathering and its expression of earth surface CO 2. To learn how mass wasting happen and its importance to create relief feature</p>
	<p><b>5. Geomorphic agents</b> Key concept: ➤ Classification and evolution of fluvial process ➤ Classification and evolution of coastal process ➤ Classification and evolution of Aeolian process ➤ Classification and evolution of glacial process</p>	<p><b>Students would learn</b> CO 3. To specify the erosion and accretion feature due to different exogenic physical process</p>

<p><b>6. Models of slope evolution</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Decline, replacement, and retreat of slope</li> <li>➤ Systems approach and its significance in geomorphology</li> </ul>	<p><b>Students would learn</b> CO 4. To study and understand of slope decline retreat according to importance theories CO 5. To understand the significance of slope in geomorphology</p>
<b>Module: III - Hydrology</b>	
<p><b>7. Global hydrological cycle</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Role of hydrological cycle in physical and biological surface</li> </ul>	<p><b>Students would learn</b> CO 1. To know what is global hydrological cycle CO 2. To learn the importance of hydrological cycle</p>
<p><b>8. Surface Run off</b> Key concept</p> <ul style="list-style-type: none"> <li>➤ Controlling factors</li> <li>➤ Concept of ecological flow</li> </ul>	<p><b>Students would learn</b> CO 3. To know the surface run off and how it is control with the help of different factors CO 4. To understand the ecological flow respect to surface runoff</p>
<p><b>9. Drainage basin as a hydrological unit</b> Key concept</p> <ul style="list-style-type: none"> <li>➤ watershed management</li> </ul>	<p><b>Students would learn</b> CO 5. To study and understand about unit hydrograph CO 6. To know the significance of watershed management</p>
<b>Module: IV- Oceanography</b>	
<p><b>10. Properties of ocean water</b> Key concept</p> <ul style="list-style-type: none"> <li>➤ Physical properties of ocean water</li> <li>➤ Chemical properties of ocean water</li> </ul>	<p><b>Students would learn</b> CO 7. Distribution and determinants of temperature and salinity CO 8. To study about the properties of ocean water in details CO 9. To understand and asses the distribution of temperature and salinity in ocean water in vertical and horizontal movement</p>
<p><b>11. Ocean circulation</b> Key concept</p> <ul style="list-style-type: none"> <li>➤ Ocean circulation</li> <li>➤ Wave formation</li> <li>➤ Tide formation</li> </ul>	<p>CO 10. To know about the circulation of ocean water and understand the wave and tide circulation in horizontal and vertical</p>
<p><b>12. Marine resources</b> Key concept</p> <ul style="list-style-type: none"> <li>➤ Classification</li> <li>➤ Sustainable utilization</li> </ul>	<p>CO 11. To learn and study about the different type of marine resources CO 12. To learn how marine resources will be utilized in a sustainable way</p>

<b>GEO-G-CC-1-01-P Physical Geography Lab</b>	<b>Physical Geography Lab</b>	<b>Students would learn</b>
	1. Megascopic identification of mineral samples:	CO 1. Identification of different type of minerals with their specific characteristics
	2. Megascopic identification of rock samples:	CO 2. Identification of different type of minerals with their specific characteristics
	3. Extraction of physiographic information from Survey of India topographical maps of plateau region (RF - 1:50000)	CO 3. To learn how to extract, Construction and interpretation of relief profiles CO 4. To learn how to Construction and interpretation of relative relief map
4. Extraction of drainage information from Survey of India topographical maps of plateau region: Extraction and interpretation of channel features and drainage patterns, Construction of channel profiles.	CO 5. To learn how to extract and Construct of Drainage features, Drainage patterns information and interpretation.	
<b>Environmental Geography GEO-G-CC-2-02-TH</b>	<b>Module: I -Climatology</b>	<b>Students would learn</b>
	1. <b>Insolation and Heat Budget</b> Key concept: ➤ Horizontal and vertical distribution of atmospheric temperature ➤ Horizontal and vertical distribution of atmospheric pressure	CO 1. To study about how temperature and pressure are distributed in different way in atmosphere CO 2. To know in which process earth gets the heat from sun with different way
	2. <b>Planetary wind systems</b> Key concept: ➤ Indian Monsoons: Mechanisms and controls	<b>Students would learn</b> CO 3. To study and understand the mechanism of monsoon special reference to India CO 4. To learn about the different type of wind system which controls the earth system
	3. <b>Atmospheric disturbances</b> Key concept: ➤ Tropical and temperate cyclones ➤ Thunderstorms	<b>Students would learn</b> CO 5. Study about the mechanism of different types of cyclones CO 6. To understand the vulnerability of the cyclones
	4. <b>Overview of global climatic change</b> Key concept: ➤ Greenhouse effect ➤ Ozone depletion	<b>Students would learn</b> CO 7. To learn about the global climate change and its impact on environment CO 8. To study about the greenhouse effect on environment CO 9. To aware about causes of ozone depletion and its impact on earth surface
	5. <b>Scheme of world climatic classification by Köppen</b> Key concept: ➤ Different type of climate	<b>Students would learn</b> CO 10. To study about koppen's classification and belonging areas
	<b>Module: II - Soil Geography</b>	<b>Students would learn</b>
6. <b>Soil Geography</b> Key concept: ➤ Factors of soil formation	CO 1. To study about the soil formation method	

	<p><b>7. Soil profile development under different climatic conditions</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Laterite soil</li> <li>➤ Podsol soil</li> <li>➤ Chernozem soil</li> </ul>	<p><b>Students would learn</b> CO 2. To learn about characteristics, distribution, importance of different types of soil</p>
	<p><b>8. Physical and chemical properties of soils</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Texture, structure, pH, salinity</li> <li>➤ NPK status</li> </ul>	<p><b>Students would learn</b> CO 3. To study and learn about the soil properties and structure of soil CO 4. To understand the significance of NPK in soil</p>
	<p><b>9. USDA classification of soils</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Soil erosion and its management</li> </ul>	<p>CO 5. To know and learn about the classification of soil according to USDS CO 6. Learn what are the causes of soil erosion and how to protect the soil from erosion</p>
	<p><b>Module: III - Biogeography</b> <b>10. Ecosystem and Biomes</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Distribution and characteristics of tropical rainforest</li> <li>➤ Distribution and characteristics of Savannah, and hot desert biomes</li> </ul>	<p>CO 1. To learn and study about ecosystem CO 2. To understand and importance of biomes CO 3. To study about the different types of biome region and their distribution with special characteristics</p>
	<p><b>11. Plant ecology</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Plant types, occurrence and ecological adaptations</li> <li>➤ Halophytes, xerophytes, hydrophytes, and mesophytes</li> </ul>	<p>CO 4. To study and specify the plant types and their adaptation process CO 5. Learn and study of different types of plant spices</p>
	<p><b>12. Biodiversity</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Types, threats and management with special reference to India</li> </ul>	<p>CO 6. To learn the concept of biodiversity CO 7. To study about different types of biodiversity region CO 8. To know and aware to protect the biodiversity with proper knowledge reference to India</p>
<p><b>GEO-G-CC-2-02-P Environmental Geography Lab</b></p>	<p style="text-align: center;"><b>Environmental Geography Lab</b></p> <p>1. Interpretation of daily weather map of India (any one): Pre-Monsoon or Monsoon or Post-Monsoon</p>	<p>CO 1. Properly interpret the weather map of India and draw the weather map of different climatic condition.</p>
	<p>2. Construction and interpretation of hythergraph, climograph (G. Taylor) and wind rose (seasonal)</p>	<p>CO 2. Learn and teaches the calculation construction of Hythergraph, Climograph and wind rose</p>
	<p>3. Determination of soil type by ternary diagram textural plotting</p>	<p>CO 3. To teaches and learn how to prepare soil texture ternary diagram</p>
	<p>4. Preparation of peoples' biodiversity register</p>	<p>CO 4. Teaches how to prepare a biodiversity register from field survey</p>

<b>Human Geography</b> <b>GEO-G-CC-3-03-TH</b>	<b>Module: I - Economic Geography</b>	<b>Students would learn</b>
	<b>1. Sectors of the economy</b> Key concept: <ul style="list-style-type: none"> <li>➤ Primary activities</li> <li>➤ Secondary activities</li> <li>➤ Tertiary and Quaternary activities</li> <li>➤ Factors affecting location of economic activities</li> </ul>	CO 1. Get knowledge about problem and prospect about agriculture, Industry, trade and transport. CO 2. Aware the student about need of conservation and Protection of natural resources.
	<b>2. Location of economic activities</b> Key concept: <ul style="list-style-type: none"> <li>➤ Theories of von-Thünen</li> <li>➤ Theories of Lösch</li> <li>➤ Theories of Weber</li> </ul>	<b>Students would learn</b> CO 3. Review, understand and apply the modes of economics development by various models. CO 4. How and why agricultural land use varies with the distance from a market. To illustration of the balance between land cost and transportation costs CO 5. To find out the place where maximum profits will occur. CO 6. To find out the minimum cost location of an industry.
	<b>3. Location of industries with special reference to India</b> Key concept: <ul style="list-style-type: none"> <li>➤ Cotton</li> <li>➤ Iron</li> <li>➤ Steel</li> </ul>	<b>Students would learn</b> CO 7. To study the locations of industry and their activities primary and secondary and its factors responsible for same. CO 8. To discuss the nature of distribution and problem of Cotton, Iron and steel industry in India.
	<b>4. Globalization and integration of world economies</b>	<b>Students would learn</b> CO 9. To describe how the changes in societies and the world economy that result from dramatically increased international trade and cultural exchange.
	<b>Module: II – Social Geography</b>	<b>Students would learn</b>
	<b>5. Human Society:</b> Key concept: <ul style="list-style-type: none"> <li>➤ Structure, functions, social systems.</li> <li>➤ Population and migration: overview, causes and effects</li> </ul>	CO 1. To understand that what are the Structure, functions, and social systems of human society. CO 2. To understand that what are the population density, population growth, Man-Land ratio and different types of migration, its causes and effects.
	<b>6. Types and characteristics of social organizations</b> Key concept: <ul style="list-style-type: none"> <li>➤ Primitive, hunting-gathering, agrarian, Industrial</li> </ul>	<b>Students would learn</b> CO 3. Students able to define different types of social structure and important characteristics.
<b>7. Race, Language and Religion</b> Key concept: <ul style="list-style-type: none"> <li>➤ Origin, characteristics and spatial variations</li> </ul>	<b>Students would learn</b> CO 4. Learner will be able to define social structure (i.e. social organization) and explain some important elements of social structure, role, class, power, ethnicity, race, gender, and social stratification. CO 5. Learner will be able to define culture and explain some important elements of culture, including beliefs, values, norms, and language.	
<b>8. Social Issues</b> Key concept: <ul style="list-style-type: none"> <li>➤ Diversity, conflict and transformation</li> </ul>	CO 6. To understand Man – Environment, and nature-society interactions as well as impact on Man on Environment.	

	<b>Module: III – Cultural Geography</b>	<b>Students would learn</b>
	<b>9. Carl Sauer</b> Key concept: ➤ Cultural landscape and its elements	CO 1. This theory introduced the learner to the cultural landscape is shaped by humans and various cultural aspects.
	<b>10. Rural and urban settlements</b> Key concept ➤ Differentiation in cultural landscapes	CO 2. To understand the Nature and Scope of Settlement Geography Characteristics of Rural and Urban Settlements according to Indian Census and nature, scope, evolution and study methods. CO 3. To understand the settlement types, pattern and nature and process of urban settlement and some basic concept related to settlement geography.
	<b>11. Cultural regions and cultural realms</b>	CO 4. Learner able to understand the different types of cultural regions and cultural realms.
	<b>12. Diffusion of culture and innovations</b>	CO 5. Learner able to understand that cultural diffusion and innovation
<b>GEO-G-CC-3-03-P Human Geography Lab</b>	<b>Human Geography Lab</b>	CO 1. Learner able to understand that how to calculate and draw of proportional division circles to the different components of occupational Structure.
	1. State-wise variation in occupational structure by proportional divided circles.	CO 2. Learner able to understand how to calculate, draw and apply the concept of stationary to the analysis of time series data in various contexts.
	2. Time series analysis of industrial production using any two manufactured goods from India.	CO 3. Learner able to understand that how to calculate and draw of growth rate of population comparing two datasets.
	3. Measuring arithmetic growth rate of population comparing two datasets.	CO 4. Learner able to understand that how to nearest neighbor analysis examines the distances between each point and the closest point to it, and then compares these two expected values for a random sample of points from a CSR (complete spatial randomness) pattern.
	4. Nearest neighbour analysis: Rural example from Survey of India 1:50000 topographical maps.	
<b>GEO-G-SEC-A-3-01-TH Coastal Management SEC</b>	<b>Skill Enhancement Course</b>	<b>Students would learn</b>
	1. Components of a coastal zone. Coastal morph dynamic variables and their role in evolution of coastal forms	CO 1. Interdisciplinary skills that demonstrate about the components of coastal zone CO 2. Research skills to analysis the coastal morphology system and the evolution of landforms in coastal zone CO 3. Learning skills of continental shelf slope and deep sea features and their identification
	2. Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism	CO 4. Research skills about the impacts mining and oil exploration from coastal zone and suggest a proper management to protect the coastal environment CO 5. Multidisciplinary skills of coastal zone management as tourism, salt manufacturing and land reclamation
	3. Coastal hazards and their management using structural and non-structural measures: Erosion, flood, sand encroachment, dune degeneration, estuarine sedimentation and pollution	CO 6. Interdisciplinary skills about awareness of coastal hazard and vulnerability CO 7. Resilience skills of hazard management in different methods like structural and environment eco-friendly. CO 8. Research skills of different type of coastal hazard with their impacts
	4. Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India	CO 9. Learning skills of coastal regulation zone notification for protect the coastal zone CO 10. Thinking skills of buffer zone significance for urban construction according to CRZ notification

<b>GEO-G-CC-4-04-TH</b> <b>Cartography</b>	<b>Module: I - Scale and Projections</b>	<b>Students would learn</b>
	<b>1. Maps</b> Key concept: ➤ Classification and types ➤ Scales: Types, significance, and applications	CO 1. To study of maps with classification and types of map CO 2. To know about the sale and importance of scale and application scale on different field
	<b>2. Coordinate systems</b> Key concept: ➤ Polar and rectangular co-ordinate system ➤ Bearing Magnetic and true, whole-circle and reduced	CO 3. To understand the coordinate system and learn its application on field work CO 4. To learn about survey method and know the technique of surveying with instrument
	<b>3. Map projections</b> Key concept: ➤ Classification, properties and uses of projection. ➤ Concept and significance of UTM projection	CO 5. Study and application of projection CO 6. To learn of different types of projection and their importance, application for earth coordination CO 7. To Study and learn about the significance of UTM projection and it use
	<b>Module: II - Topographic and Thematic Maps</b>	<b>Students would learn</b>
	<b>4. Survey of India topographical maps</b> Key concept: ➤ Reference scheme of old and open series. ➤ Information on the margin of maps	CO 1. To study about the different types of topographical map CO 2. Learn what are the marginal topographical maps and its application.
	<b>5. Representation of data by dots and proportional circles</b> Key concept: ➤ Pie diagram ➤ Dot map	CO 3. To learn about the importance of representative data. CO 4. Learn the function of pie and dot diagram reference to application
	<b>6. Representation of data</b> Key concept: ➤ Isopleths ➤ Choropleth	CO 5. To study and learn <b>the application of Isopleths and Choropleth</b>
	<b>7. Thematic maps in India</b> Key concept: ➤ Principal national agencies producing thematic maps in India ➤ GSI, NATMO, NBSSLUP, NHO, and NRSC. Acquaintance with Bhuvan platform	<b>Students would learn</b> CO 6. To know and learn the address of map producing houses of India. CO 7. To know how to collect the map of these organization.
<b>Module: III - Remote Sensing and Geographical Information System</b>		
<b>8. Basics of Remote Sensing</b> Key concept: ➤ Types of satellites, sensors, bands, and resolutions with special reference to the ISRO missions	CO 1. To study and learn the significance of satellite imageries CO 2. To understand the resolution of satellite image and its importance to draw false color composite and feature identification	
<b>9. Principles of preparing standard FCCs and classified raster images</b>	CO 3. To know how identify the false color composite for feature drawing	



	<p><b>10. Principles of Geographical Information System</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Concepts of vector types</li> <li>➤ attribute tables</li> <li>➤ buffers, and overlay analysis</li> </ul>	<p>CO 4. To explain and inform about the importance of GIS CO 5. To inform about attributes table and its function CO 6. To explain about the significance of buffer zone and overlay analysis and how to prepare it.</p>
	<p style="text-align: center;"><b>Module: IV - Surveying</b></p> <p><b>11. surveying and survey equipment</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Basic concepts of surveying and survey equipment</li> <li>➤ Prismatic compass</li> </ul>	<p><b>Students would learn</b> CO 1. Explain to know what is survey CO 2. To understand why survey is important CO 3. To study and explain the significance of prismatic compass</p>
	<p><b>12. surveying and survey equipment</b> Key concept:</p> <ul style="list-style-type: none"> <li>➤ Basic concepts of surveying and survey equipment</li> <li>➤ Dumpy level</li> </ul>	<p>CO 4. Explain to know what is survey CO 5. To understand why survey is important CO 6. To study and explain the significance of dumpy level</p>
<p><b>GEO-G-CC-4-04-P</b> <b>Cartography</b></p>	<p style="text-align: center;"><b>Cartography Practical</b></p> <p><b>13.</b> Graphical construction of scales: Plain and comparative</p>	<p><b>Students would learn</b> CO 1. To understand the importance of scale in different statistical analysis and ground survey CO 2. To prepare the scale diagram and mathematics of scale</p>
	<p><b>14.</b> Construction of projections: Simple Conic with one standard parallel, Cylindrical Equal Area, and Polar Zenithal Stereographic</p>	<p>CO 3. Learn and teaches the calculation of projection and teaches how to draw projection reference to different countries</p>
	<p><b>15.</b> Construction of thematic maps: Proportional squares, proportional circles, Choropleths, and isopleths</p>	<p>CO 4. To teaches and learn how different thematic maps will be prepare from data source</p>
	<p><b>16.</b> Preparation of annotated thematic overlays from satellite standard FCCs of 1:50000</p>	<p>CO 5. To teach the preparation of false color composite from satellite imagery</p>
<p><b>GEO-G-SEC-B-4-04-th</b> <b>Sustainable development</b> <b>SEC</b></p>	<p style="text-align: center;"><b>Skill Enhancement Course</b></p> <p><b>1.</b> Sustainable development: Concept, Historical background, components, limitations</p>	<p><b>Students would learn</b> CO 1. Learning skills of basic knowledge of sustainability and historical background of sustainability CO 2. Thinking skills of the component and the limitation of sustainability</p>
	<p><b>2.</b> Challenges of sustainable development: Determinants, linkage among sustainable development, environment and poverty</p>	<p>CO 3. Problem solving skills of sustainability and how it is crate problem for sustainable development CO 4. Problem solving skills for poverty to not maintain the sustainability</p>
	<p><b>3.</b> Global environmental issues: Population, income and urbanization, health care, forest and water resources</p>	<p>CO 5. Research skills of global environmental issues such as population income urbanization and their significance</p>
	<p><b>4.</b> Global goals for sustainable development: Domain, conflict, crisis and compromise</p>	<p>CO 6. Learning skills about the global sustainability CO 7. Problem solving skills of conflict of sustainability with different reasons CO 8. Multidisciplinary skills of the crisis of sustainability according to global sustainable development</p>

GEO-G-DSE-A-5-01-TH Regional Development DSE	<b>Discipline Specific Electives</b>	<b>Students would learn</b>
	1. Definition of region. Types and need of regional planning	CO 1. To study about region and understand the different type of region and regional planning
	2. Choice of a region for planning; characteristics of an ideal planning region; delineation of planning region	CO 2. Study how to create proper planning region and their delineation
	3. Regionalization of India for planning (agro-ecological zones)	CO 3. Study about regionalization planning for planning of agro ecological zones
	4. Strategies/models for regional planning: growth pole model of Perroux	CO 4. To learn and study about model of regional planning with special reference
	5. Growth centre model in Indian context. Concept of village cluster	CO 5. To understand growth centre model in Indian context
	6. Problem regions and regional planning. Backward regions and regional plans: special area development plans in India. Damodar4 Valley Corporation: Success and failure	CO 6. To study and learn the problem of region and planning CO 7. Understand the Damodar valley corporation and its importance
	7. Changing concept of development and underdevelopment; Efficiency-equity debate	CO 8. To know and learn the changing concept of development
	8. Regional development in India, regional inequality, disparity and diversity	CO 9. Study about Indian regional problem disparity and diversity
	9. Development and regional disparities in India since Independence: Disparities in agricultural development	CO 10. Study how to minimize the regional disparity in India CO 11. Study how to minimize the regional disparity for agricultural development
	10. Indicators of development: Economic, demographic, and environmental. Concept of human development	CO 12. Explain in detail what the indicator of development is CO 13. To understand the different types of development regarding to human
	11. Development and regional disparities in India since Independence: Disparities in industrial development	CO 14. To explain about the disparities in India in different sector CO 15. To know what are the regional disparity in industrial sector
12. Development and regional disparities in India since independence : Disparities in human resource development in terms of education and health	CO 16. To explain about the disparities in India in human resources in terms of education and heath	
GEO-G-DSE-A-5-01 P- Regional Development Lab	<b>Regional Development Lab</b>	CO 1. To know the methods of delineation of region according to weaver's method and draw the diagram of criteria based region
	1. Delineation of regions according to given criteria using Weaver's method	CO 2. Learn and teaches the calculation and construction of sphere diagram with suitable data
	2. Determination of sphere of influence by gravity model)	CO 3. To teaches how to draw a inequality curve to identify the disparity
	3. Measurement of inequality by Lorenz curve and location quotient	CO 4. Explain and teaches how to prepare a z-score diagram CO 5. To prepare the composite index from suitable regional data
	4. Preparation of Z-score and composite index from suitable data Preparation of Z-score and composite index from suitable data	

<b>GEO-G-DSE-B-6-04-TH</b> <b>Population Geography</b> <b>DSE</b>	<b>Module: I- Population Dynamics</b>	<b>Students would learn</b>
	<b>1. Development of Population</b> Key concept: <ul style="list-style-type: none"> <li>➤ Relation between population geography and demography</li> <li>➤ Sources of population data, their level of reliability and problems of mapping</li> </ul>	CO 1. To study what is population geography CO 2. Explain about the relation between geography and demography CO 3. To explain and study different types of data, their reliability and problems of mapping
	<b>2. Population distribution</b> Key concept: <ul style="list-style-type: none"> <li>➤ Density and growth</li> <li>➤ Classical and modern theories on population growth</li> <li>➤ Demographic transition model</li> </ul>	CO 4. To study of population distribution CO 5. Explain what is population density with calculation and growth of population also described in details CO 6. Explain the population growth theories and classification CO 7. To study the demographic transition model in details
	<b>3. World patterns and determinants of population distribution and growth</b> Key concept: <ul style="list-style-type: none"> <li>➤ Concept of optimum population</li> </ul>	CO 8. To explain the population distribution pattern in world wise CO 9. Clearly understand the optimum population and how it differ from over population
	<b>4. Population distribution</b> Key concept: <ul style="list-style-type: none"> <li>➤ Density of population distribution</li> <li>➤ Growth of population distribution in India</li> </ul>	CO 10. To explain about population density reference to India CO 11. Understand the growth of population and its intensity in India
	<b>Module: II - Population and Development</b>	<b>Students would learn</b>
	<b>5. Types of population composition</b> Key concept: <ul style="list-style-type: none"> <li>➤ Age–sex composition</li> <li>➤ Rural–urban literacy and education</li> </ul>	CO 1. Explain the population composition with age sex ratio CO 2. To understand the literacy condition and disparity in rural urban sector
	<b>6. Fertility and mortality</b> Key concept: <ul style="list-style-type: none"> <li>➤ Measurements of fertility and mortality</li> <li>➤ Concept of cohort and life table</li> </ul>	CO 3. Explain and study about fertility and mortality CO 4. Explain how to measures fertility and mortality CO 5. Understand and explain the concept of cohort and life table
	<b>7. Population composition of India</b> Key concept: <ul style="list-style-type: none"> <li>➤ Urbanization</li> <li>➤ occupational structure</li> </ul>	CO 6. To study and understand the population composition in India CO 7. Explain the urbanization structure of India CO 8. Study about the occupational structure of India
<b>8. Migration</b> Key concept: <ul style="list-style-type: none"> <li>➤ Causes and types of migration</li> </ul>	CO 9. Explain the about migration CO 10. Explain the major causes of migration CO 11. Study the impact of migration	
<b>9. Patterns of migration</b> Key concept: <ul style="list-style-type: none"> <li>➤ National and international patterns of migration with reference to India</li> </ul>	CO 12. To study the different type of pattern of migration special reference to India	

	<b>10. Population and development</b> Key concept: <ul style="list-style-type: none"> <li>➤ Population–resource regions (Sekerman).</li> <li>➤ Concept of human Development Index and its components</li> </ul>	<b>Students would learn</b> CO 13. Explain the population resources according to Sekerman CO 14. Detail the concept of human development index and its indicator with its components
	<b>11. Population policies</b> Key concept: <ul style="list-style-type: none"> <li>➤ Population policies in developed and less development countries</li> <li>➤ India's population policies. Population and environment, implication for the future</li> </ul>	CO 15. Explain and study about the policies which are taken for develop and developing countries CO 16. Understand the population policies of India and its implication for future
	<b>12. Contemporary issues</b> Key concept: <ul style="list-style-type: none"> <li>➤ Ageing of population, declining sex ratio</li> <li>➤ Population and environment dichotomy</li> <li>➤ Impact of HIV/AIDS</li> </ul>	CO 17. Explain the different contemporary issues and their problem CO 18. To aware about different types of issues that have major impact on environment
<b>GEO-G-DSE-B-6-04-P Population Geography Lab</b>	<b>Population Geography Lab</b>	CO 1. To teaches how population projection will be calculated in arithmetic method and its application on field survey
	1. Population projection by arithmetic method	CO 2. To learn and practice the population density mapping from state wise data respect India
	2. Population density mapping: State-wise for India	CO 3. To teaches the analysis of work participation rate in gender wise for India
	3. Analysis of work participation rate: Total and gender-wise for India	CO 4. To learn how to draw occupation structure from West Bengal data and its application to make occupation structure
	4. Analysis occupation structure by dominant and distinctive functions: Districts of West Bengal	

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