# PROGRAMME AND COURSE OUTCOMES OF GEOGRAPHY HONOURS (B.A. & B.SC.), UNDER CBCS 2023-24

Geography is the study of places and the relationships between people and their environments. Geographers explore both the physical properties of Earth's surface and the human societies spread across it. They also examine how human culture interacts with the natural environment and the way those locations and places can have an impact on people. The Honours programme in geography is tailored to meet the students' specific educational and professional goals in mind. It focuses on spatial studies, qualitative as well as quantitative, and emphasizes on humanenvironment relationship. During the first four semesters of the programme, the students are trained on advanced concepts of physical, economic and human geography and different techniques of map making. The fifth semester allows them to concentrate on specific areas of the subject, on which they complete their field reports. In the sixth semester a comprehensive view about the subject is developed. After completing the course, the students will be amply prepared for professional careers in geography and allied disciplines like GIS and Remote Sensing.

### CHOICE BASED CREDIT SYSTEM (CBCS): SYLLABUS IN GEOGRAPHY:

The main objective of this new curriculum is to give the students a holistic understanding of the subject, putting equal weightage to the core content and techniques used in Geography. The syllabus tries to give equal importance to the two main branches of Geography: Physical and Human. The principal goal of the syllabus is to enable the students to secure a job at the end of the undergraduate programme.

#### **LEARNING OUTCOMES:**

This syllabus is designed to impart basic knowledge on geography as a spatial science and train the undergraduates to secure employment in the sectors of geospatial analysis, development and planning, mapping and surveying. Following are the outcomes after completion of the BA./BSc. Honours Programme in Geography:

**1 .Acquiring Knowledge of Physical Geography:** Student will gain the knowledge of physical geography. Student will have a general understanding about the geomorphological and geotechnical process and formation. They will be able to correlate the knowledge of physical geography with the human geography.

**2. Acquiring Knowledge of Human Geography:** They will be able to acquire the knowledge of Human Geography and will correlate it with their practical life.

**3.** Ability of Problem Analysis: Student will be able to analyse the problems of physical as well as cultural environments of both rural and urban areas. Moreover they will try to find out the possible measures to solve those problems.

**4. Conduct Social Survey Project:** They will be eligible for conducting social survey project which is needed for measuring the status of development of a particular group or section of the society.

**5. Application of modern instruments:** Students will be able to learn the application of various modern instruments and by these they will be able to collect primary data.

**6.** Application of GIS and modern Geographical Map Making Techniques: They will learn how to prepare map based on GIS by using the modern geographical map making techniques.

**7. Development of Observation Power:** As a student of Geography Honours programme they will be capable to develop their observation power through field experience and in future they will be able to identify the socioenvironmental problems of a locality.

**8. Development of Communication Skill and Interaction Power:** After the completion of the project they will be efficient in their communication skill as well as power of social interaction. Some of the students are being able to understand and write effective reports and design credentials, make effective demonstrations, and give and receive clear instructions.

**9. Enhancement of the ability of Management:** Demonstrate knowledge and understanding of the management principles and apply these to theirs own work, as a member and leader in a team, to manage projects. They will perform effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

**10. Understand Environmental Ethics and Sustainability:** Understand the impact of the acquired knowledge in societal and environmental contexts, and demonstrate the knowledge of need for sustainable development.

**11. Life-long learning:** Identify the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of societal and environmental change.

# COURSE OUTCOMES (Cos) OF THE COURSE B.A/B.Sc HONOURS

## UNDER CBCS

The course outcomes of the different papers offered are presented below. After completion of the course the student will be able to:

COURSE CODE	COURSE TITLE	COURSE OUTCOME
SEMESTER I		
GEO-A-CC-1-01-TH	Geotectonics and Geomorphology	<ul> <li>Understand the theories and fundamental concepts of Geotectonic and Geomorphology. Understand earth's tectonic and structural evolution. Gain knowledge about earth's interior. Develop an idea about concept of plate tectonics, and resultant landforms.</li> <li>Understanding Plate Tectonics as a unified theory of global tectonics: Processes and landforms at plate margins and hotspots.</li> <li>Acquire knowledge about types of folds and faults and earthquakes, volcanoes and associated landforms.</li> <li>Understanding crustal mobility and tectonics; with special emphasis on their role in landform development.</li> <li>Understanding Glacial and glacio-fluvial processes and landforms.</li> <li>Understanding Aeolian and fluvio- aeolian processes and landforms.</li> <li>Overview and critical appraisal of landform development models.</li> <li>Develop the skills of identification of features and correlation between them.</li> </ul>
GEO-A-CC-1-01-P	Geotectonics and Geomorphology Lab	<ul> <li>Measurement of dip and strike using clinometer</li> <li>Megascopic identification of (a) <i>mineral samples</i>: Bauxite, calcite, chalcopyrite, feldspar, galena, gypsum, hematite, magnetite, mica, quartz, talc, tourmaline; and</li> </ul>

		•	<ul> <li>(b) rock samples: Granite, basalt, dolerite, laterite, limestone, shale, sandstone,</li> <li>conglomerate, slate, phyllite, schist, gneiss, quartzite, marble</li> <li>Extraction and interpretation of geomorphic information from Survey of India 1:50k</li> <li>topographical maps of plateau region:</li> <li>Construction of relief profiles</li> <li>(superimposed,</li> <li>Projected, and composite). Delineation of drainage basins. Construction of relative</li> <li>Relief map, slope map (Wentworth's method), drainage density map, stream ordering</li> <li>(Strahler), and bifurcation ratio on a drainage basin (c. 5' x 5')</li> <li>Construction of hypsometric curve and</li> </ul>
			drainage basin (c. 5' x 5') from Survey of India 1:50k topographical maps of plateau region.
SEMESTER II GEO-A-CC-1-02-TH	Cartographic Techniques	•	Understanding Maps: Components and classification. Develop Concept and application of scales: Plain, comparative, diagonal and Vernier. Understanding Coordinate systems: Polar and rectangular. Concept of generating globe. Understanding Grids: Angular and linear systems of measurement Bearing: Magnetic and true, whole- circle and reduced. Understanding Concept of geoid and spheroid with special reference to Everest and WGS-84. Develop Map projections: Classification, properties and uses. Develop Concept and significance of UTM projection. Representation of data using dots, spheres and divided proportional circles, isopleth, choropleth, and chorochromatic maps. Gain knowledge about Survey of India topographical maps: Reference scheme of old and open series.

GEO-A-CC-1-02-P	Cartographic Techniques Lab	<ul> <li>Construction of different forms of scales.</li> <li>Construction of different types of map projections.</li> <li>Preparation of thematic maps using Proportional squares, pie diagrams with proportional circles, dots and</li> <li>Spheres, Choropleth, isopleth, and chorochromatic methods.</li> </ul>
GEO-A-CC-2-03-TH	Human Geography	<ul> <li>Gain knowledge about major themes of human Geography.</li> <li>Acquire knowledge on the history and evolution of humans.</li> <li>Understand the approaches and processes of Human Geography as well as the diverse patterns of habitat and adaptations.</li> <li>Develop an idea about space and society.</li> <li>Explaining Human adaptation to environment: Case studies of Eskimo, Masai and Maori.</li> <li>Analysing Population growth and distribution, composition; demographic transition.</li> <li>Analysing Development– environment conflict.</li> <li>Types and patterns of rural settlements.</li> <li>Understanding rural house types in India.</li> <li>Understanding Morphology and hierarchy of urban settlements.</li> </ul>
GEO-A-CC-2-03-P	Human Geography Lab	<ul> <li>Bringing out Spatial variation in continent- or country-level religious composition.</li> <li>Measuring arithmetic growth rate of population comparing two decadal datasets.</li> <li>Graphical representation and analysis of Types of age-sex pyramids (progressive, regressive, intermediate, and stationary).</li> <li>Analysing Nearest neighbour analysis from Survey of India 1:50k topographical maps of plain</li> </ul>

		Region.
GEO-A-CC-2-04-TH	Thematic Mapping and Surveying	<ul> <li>Developing Concepts of rounding, scientific notation. Logarithm and antilogarithm. Natural and log scales</li> <li>Developing Concept of diagrammatic representation of data</li> <li>Preparation and interpretation of geological maps, geological maps, land use land cover maps and socioeconomic maps</li> <li>Knowledge about principal national agencies producing thematic maps in India: NATMO, GSI, NBSSLUP, NHO, and NRSC / Bhuvan</li> <li>Developing Basic concepts of surveying and survey equipment: Prismatic compass, Dumpy level, Theodolite, Abney level and Laser distance measurer.</li> </ul>
GEO-A-CC-2-04-P	Thematic Mapping and Surveying Lab	<ul> <li>Knowledge about traverse survey using prismatic compass, profile survey using dumpy Level.</li> <li>Height determination of objects by theodolite.</li> <li>Interpretation of geological maps.</li> </ul>
SEMESTER III		
GEO-A-CC-3-05-TH	Climatology	<ul> <li>Understand the elements of weather and climate, different atmospheric phenomena and climate change.</li> <li>Learn to associate climate with other environmental and human issues. Approaches to climate classification.</li> <li>To analyze the dynamics of the Earth's atmosphere and global climate. Assessing the role of man in global climate change.</li> <li>Learn the interaction between the atmosphere and the earth's surface. Understand the importance of the atmospheric pressure and winds.</li> <li>Understand how atmospheric moisture works. Understanding atmospheric disturbances: Tropical and mid-latitude cyclones, thunderstorms.</li> <li>Developing knowledge about monsoon circulation and mechanism with reference to India.</li> </ul>

GEO-A-CC-3-05-P	Climatology Lab	<ul> <li>To learn the measurement of weather elements using analogue instruments.</li> <li>To learn about Interpretation of a daily weather map of India,</li> <li>Construction and interpretation of hythergraph and climograph, wind rose.</li> </ul>
GEO-A-CC-3-06-TH	Hydrology and Oceanography	<ul> <li>Analyse the concepts of Hydrology and Oceanography</li> <li>Emphasizing the significance of groundwater quality and its circulation Evaluate the role of the global hydrological cycle.</li> <li>Studying the behaviour and characteristics of the global oceans.</li> <li>Realize the importance of water conservation.</li> <li>Identify marine resources and characteristics of ocean waters.</li> <li>Gain knowledge about major relief features of the ocean floor: Characteristics and origin according to plate tectonics.</li> <li>Gain knowledge about Coral reefs: Formation, classification and threats.</li> </ul>
GEO-A-CC-3-06-P	Hydrology and Oceanography Lab	• To learn about construction and interpretation of different diagrams using climatic data and correlate them with other environmental factors.
GEO-A-CC-3-07-TH	Statistical Methods in Geography Statistical Methods in	<ul> <li>Learn about importance and significance of statistics in Geography.</li> <li>Developing knowledge on data, population and samples, scales of measurement.</li> <li>Collection of data and preparation of statistical tables.</li> <li>Learn about sampling: Need, types, significance, and methods of random sampling.</li> <li>Developing knowledge about descriptive and inferential statistics.</li> <li>Learn the time series analysis.</li> </ul>
	Geography Lab	<ul> <li>Developing knowledge based on the above, a frequency table, measures of central tendency, and dispersion would</li> </ul>

		<ul> <li>be computed and interpreted using histogram and frequency curve.</li> <li>Developing knowledge based on the sample set and using two relevant attributes, a scatter diagram and linear regression line would be plotted and residual from regression would be mapped with a short interpretation.</li> </ul>
GEO-A-SEC-A-3-02- TH	Tourism Management	<ul> <li>Understanding the scope and Nature of tourism management.</li> <li>Analysing different types of tourism in national and international level.</li> <li>Understanding different factors before planning tourist destination, knowledge about tourism product.</li> <li>Understanding impact of tourism. Learning the use of IT in tour planning and operation.</li> <li>Case study of important tourist destination in India.</li> </ul>
SEMESTER IV		
GEO-A-CC-4-08-TH	Economic Geography Economic Geography Lab	<ul> <li>Developing concepts in economic geography: Goods and services, production, exchange, and consumption.</li> <li>Developing concept and classification of economic activities.</li> <li>Learn about factors affecting location of economic activity with special reference to agriculture.</li> <li>Developing concept on primary, secondary and tertiary activities.</li> <li>Knowledge about transnational searoutes, railways and highways with reference to India.</li> <li>Learn about international trade and economic blocs, WTO, BRICS.</li> <li>Construction and analysis of state-wise variation in GDP, occupational structure, industrial production etc.</li> <li>Different methods of transport network analysis.</li> </ul>
GEO-A-CC-4-09-TH	Regional Planning and Development	<ul> <li>Understand and identify regions as an integral part of geographical study.</li> </ul>

		•	Learn about regional Planning: Types, principles, objectives, tools and techniques.
		•	Developing concept of growth and development, growth versus
		•	development. Learn about indicators of development:
			environmental.
		•	Developing knowledge on human development.
		•	Analysing the concept of regions and regionalization.
		•	Gain knowledge about definition of region, evolution and types of regional
			of a region for planning.
		•	Build an idea about theories and models for regional planning. Know
			about measuring development indicators.
GEO-A-CC-4-09-P	Regional Planning and Development Lab	•	Developing knowledge on delineation of formal regions by weighted index method.
		•	Developing concept of delineation of functional regions by breaking point analysis.
		•	Developing knowledge about measurement of inequality by location
		•	Learn about measuring regional
GEO-A-CC-4-10-TH	Soil and Biogeography	•	disparity by Sopher index. Have knowledge about the character
		•	and profile of different soil types. Understand the impact of man as an
			active agent of soil transformation,
		•	Recognize land capability and classify
		•	it. Explaining the Pedological and
			Edaphological Approaches to Soil Studies - Processes of soil formation,
			types of soil, and principles of soil and land classification; and management.
		•	Understand the varied ecosystems and
		•	Recognize the significance of
	1	1	Sige Contention cycles and blourversity.

		<ul> <li>Learn about concepts of biosphere, ecosystem, biome, ecotone, community and ecology.</li> <li>Learn about concepts of trophic structure, food chain and food web. Energy flow in ecosystems</li> <li>Understanding Classification of world biomes (Whittaker).</li> <li>Geographical extent and characteristics of tropical rain forest, savanna, hot desert, taiga and coral reef biomes.</li> </ul>
GEO-A-CC-4-10-P	Soil and Biogeography Lab	<ul> <li>Learn about determination of soil reaction (pH) and salinity using field kit.</li> <li>Knowledge about determination of soil type by ternary diagram textural plotting.</li> <li>Analyse plant species diversity determination by matrix method.</li> <li>Learn about time series analysis of biogeography data.</li> </ul>
GEO-A-SEC-B-4-03- TH	Rural Development	<ul> <li>Getting the knowledge about the concept of Rural Development.</li> <li>Studying different approaches to rural development.</li> <li>Getting knowledge about important rural development and poverty alleviation projects.</li> <li>Understanding Panchayeti raj system and it role in rural governance.</li> </ul>
SEMESTER V		
GEO-A-CC-5-11-TH	Research Methodology and Fieldwork	<ul> <li>Understanding the meaning, types and significances of research in geography.</li> <li>To learn literature review and formulation of research design.</li> <li>To learn how to defining research problem, objectives and hypothesis.</li> <li>Knowledge about the research materials and methods.</li> <li>Understanding plagiarism: Classification and prevention</li> <li>Have expertise in identification of area of study, methodology, quantitative and quantitative analysis, and conclusions to be drawn about the area – fundamental to geographical research.</li> <li>Apprehension of field techniques and tools.</li> <li>To learn Post-field tabulation,</li> </ul>

		processing and analysis of quantitative and qualitative data.
GEO-A-CC-5-11-P	Research Methodology and Fieldwork Lab	<ul> <li>Perception and comprehension about the research methodology &amp; filed work.</li> <li>Preparation of field report.</li> </ul>
GEO-A-CC-5-12-TH	Remote Sensing, GIS and GNSS	<ul> <li>Have knowledge of the principles of remote sensing, sensor resolutions and image referencing schemes.</li> <li>Interpret satellite imagery and understand the preparation of false colour composites from them.</li> <li>Analysing and interpreting remotely sensed satellite images and aerial photographs in order to understand topographical and cultural variations on the Earth's surface.</li> <li>Gain knowledge about the acquisition and utilization of free Digital Elevation Model data: CartoDEM, SRTM and ALOS.</li> <li>Training in the use Geographic Information System (GIS) software for contemporary mapping skills.</li> </ul>
GEO-A-CC-5-12-P	Remote Sensing, GIS and GNSS Lab	<ul> <li>To learn digitization of features and administrative boundaries. Data attachment, overlay, and preparation of annotated thematic maps.</li> <li>To learn Waypoint collection from GNSS receivers and exporting to GIS database.</li> <li>Apply GIS to the preparation of thematic maps.</li> </ul>
GEO-A-DSE-A-5-01- TH	Fluvial Geomorphology	<ul> <li>To learn about the scope and components of Fluvial Geomorphology; Rivers as hydro-systems; Geographers' approach to study of rivers.</li> <li>Knowledge about the fluvial morphodynamics: Adjustment of channel forms to tectonic, climatic, sea level and land use changes.</li> <li>To learn about the concepts regarding the fluvial landforms: Terraces, alluvial fans, badlands and accretion topography.</li> <li>Understanding the riverbank erosion and river degeneration: Processes, management, and impact on land use.</li> </ul>

		Knowledge about the human
		intervention on fluvial systems: Types
		and consequences.
GEO-A-DSE-A-5-01- P	Fluvial Geomorphology Lab	<ul> <li>Identification of drainage patterns and construction of channel profiles from Survey of India 1:50k topographical maps.</li> <li>Explanation of riverbank erosion: Quantification of eroded area and vulnerability zonation using multidated maps and images.</li> <li>Knowledge about the flood frequency analysis from hydrographs.</li> <li>Analyses of pebbles: Sphericity and roundness indices.</li> </ul>
GEO-A-DSE-B-5-05-	Cultural and Settlement	Understand the scope and content of
тн	Geography	cultural geography
		<ul> <li>Trace the development of cultural geography in relation to allied disciplines</li> <li>Understand the concept of cultural</li> </ul>
		hearth and realm, cultural diffusion, diffusion of religion
		• Develop an understanding of cultural
		segregation and cultural diversity, technology and development
		<ul> <li>Learn about the various races and</li> </ul>
		racial groups of the world
		Identity the cultural regions of India     Acquire knowledge about Pural
		settlements- Definition, nature and characteristics
		Analyse the morphology of rural     settlements
		<ul> <li>Learn the rural house types census</li> </ul>
		categories of rural settlements and idea of social segregation
		Learn the census definition and     sategories of urban settlements
		Analyse the urban morphology models
		of Burgess Hovt Harris and Ullma
		Differentiate between city-region and
		conurbation
		Analyse the functional classification of cities.
GEO-A-DSE-B-5-05-	Cultural and Settlement	Develop knowledge about mapping
Р	Geography Lab	language distribution of India.
		<ul> <li>Learning about CD block-wise housing distribution in any district of West</li> </ul>
		Bengal.

		<ul> <li>Identification different rural settlement types from Survey of India topographical maps.</li> <li>Knowledge about social area analysis of a city (After Shevky &amp; Bell).</li> </ul>
SEMESTER VI		
GEO-A-CC-6-13-TH	Evolution of Geographical Thought	<ul> <li>Perceive the evolution of the philosophy of Geography.</li> <li>Appreciate the contribution of the thinkers in Geography.</li> <li>Discussing the evolution of geographical thought from ancient to modern times.</li> <li>Gaining knowledge about evolution of Geographical thoughts in Germany, France, Britain, and United States of America</li> <li>Understanding the transition from cosmography to scientific Geography (contributions of Bernard Varenius and Immanuel Kant). Dualism and Dichotomies (General vs. Particular, Physical vs. Human, Regional vs. Systematic, Determinism vs. Possibilism, Ideographic vs. Nomothetic).</li> <li>Establishing relationship of Geography with other disciplines and manenvironment relationships.</li> <li>Analyzing modern and contemporary principles of Empiricism, Positivism, Structuralism, Human and Behavioral Approaches in Geography.</li> <li>Comprehensive study towards post modernism: Geography in the 21st Century.</li> </ul>
GEO-A-CC-6-13-P	Evolution of Geographical Thought Lab	<ul> <li>Learn about the changing perception of maps of the world (Ptolemy, Ibn Batuta and Mercator) comprehensive study.</li> <li>Construction of mapping voyages; Columbus, Vasco da Gama, Magellan, Thomas Cook</li> </ul>
		<ul> <li>Group Presentation of five to ten students on any selected school of geographical thought.</li> </ul>
GEO-A-CC-6-14-TH	Hazard Management	<ul> <li>Understanding the classification of hazards and disasters. Hazard continuum.</li> </ul>

		<ul> <li>Learn about approaches to hazard study: Risk perception and vulnerability assessment. Hazard paradigms.</li> <li>Gain knowledge about the responses to hazards: Preparedness, trauma, and aftermath. Resilience, capacity building.</li> <li>Knowing about hazards mapping: Data and geospatial techniques.</li> <li>Learn about Factors, vulnerability, consequences, and management of EARTHQUAKE, LANDSLIDE, LAND SUBSIDENCE, TROPICAL CYCLONE, FLOOD, RIVER BANK EROSION, FIRE AND BIOHAZARD.</li> </ul>
GEO-A-CC-6-14-P	Hazard Management Lab	<ul> <li>Perception and comprehension about a selected hazard management through preparation and submission of a project report.</li> </ul>
GEO-A-DSE-A-6-04- TH	Resource Geography	<ul> <li>Understand the approaches to resource utilization</li> <li>Appreciate the significance of resources</li> <li>Assess the pressure on resources</li> <li>Analyze the problems of resource3 depletion with special reference to forests, water and fossil fuels</li> <li>Understand the concept of Sustainable Resource development</li> <li>Understand the distribution, utilization, problems and management of metallic and non-metallic mineral resources</li> <li>Analyze the contemporary energy crisis and assess the future scenario.</li> <li>Knowledge regarding politics of power resources.</li> <li>Learn about limits to growth and sustainable use of resources &amp; concept of resource sharing.</li> </ul>
GEO-A-DSE-A-6-04- P	Resource Geography Lab	<ul> <li>Construction of mapping and area estimate of changes in forest or vegetation cover from maps and/or satellite images.</li> <li>Construction of mapping and number estimate of changes in water bodies from maps and/or satellite images.</li> <li>Understanding the decadal changes in state-wise production of coal and iron ore.</li> </ul>

		<ul> <li>Learning the computation of Human Development Index &amp; comparative decadal change of top five Indian states.</li> </ul>
GEO-A-DSE-B-6-08- TH	Geography of India	<ul> <li>Understanding the physiography, climate, soil and vegetation: Classification and interrelation.</li> <li>Developing knowledge about population: Distribution, growth, structure, and policy.</li> <li>Gain knowledge regarding tribes of India with special reference to Gaddi, Toda, Santal, and Jarwa.</li> <li>Developing concept of agricultural regions. Green revolution and its consequences.</li> <li>Learn about mineral and power resources.</li> <li>Understanding the industrial development.</li> <li>Learn about regionalisation of India: Physiographic and economic.</li> <li>Developing concept of physical perspectives, resource and population.</li> <li>Gain knowledge regarding regional issues: Darjeeling Hills and Sundarban.</li> </ul>
GEO-A-DSE-B-6-08- P	Geography of India Lab	<ul> <li>Construction of monthly temperature and rainfall graphs of five select stations from different physiographic regions of India.</li> <li>Understanding the crop combination &amp; comparison of any two contrasting districts from West Bengal.</li> <li>Understanding annual trends of production of mineral resources and manufacturing goods over two decades with the help of statistical techniques.</li> <li>Construction of composite Index.</li> </ul>