

PROGRAMME OUTCOME (PG)
DEPARTMENT OF GEOGRAPHY
M.SC. (CBCS)

PROGRAMME OUTCOME	SUMMARY	DESCRIPTION
PO1	Knowledge regarding Physical and human Geography	To acquire knowledge on the specified domain of knowledge. 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.
PO2	Environmental Awareness & Sustainability	To analyze the environmental crisis and hazard of the current century, how it is identified in view of this discipline to make a sustainable world.
PO3	Critical Reasoning & Problem Analysis	To Develop the skill of creative thinking and problem analysis in thoughts and actions.
PO4	Interdisciplinary Knowledge	To identify the role of interdisciplinary knowledge for this programme.
PO5	Socio-Cultural Applicability	The course is designed to give an account of the population and development. The acquired knowledge is used to solve the ongoing socio-cultural problems of the society .
PO6	Ethical Values & moral values	To develop the culture of value-based thinking especially environmental Ethics examines the ways we supposed to value the environment and the non-human inhabitants of the earth. It examines the moral relationship between human beings and non-human beings ethical life.
PO7	Research & Learning	To apply the acquired knowledge in continued researches work and engage in continued process of life long self-learning in the broadest field of globalization.
PO8	Familiarity with Recent Developments	Understand the recent developments that took place in the subject area, to keep oneself constantly updated.

PO9	Ability in acquiring modern knowledge in remote sensing technology and GIS	To develop creative skills and learn the art and science of understanding of satellite remote sensing and aerial photography. Basic principles of satellite motion and sensor parameters including the principles of air photo help the students to formalize with the modern space based analytical techniques.
PO10	Enhancement of Communication Skills	Develop sound vocabulary and excellent communication skills and learn the art effective writing, excellent presentations and clear comprehension.

PROGRAMME SPECIFIC OUTCOME (PG)
DEPARTMENT OF GEOGRAPHY
M.SC. (CBCS)

Geography is a science that deals with the diverse physical, biological, social, cultural, and spatial features of the earth surface. The principle concerns changes in spatial attributes in a temporal perspective. After completing the UG courses, the students will be sufficiently prepared for professional careers in geography and allied disciplines like GIS and Remote Sensing, travel and tourism, Demography, planning, marketing, surveying. They will also be able to pursue M.Phil. & Ph.D. Course in Geography.

PROGRAMME OUTCOME	SUMMARY	DESCRIPTION
PSO1	Knowledge in Physical Geography	Student will acquire general understanding about the geotechnical geomorphological process and resultant formation. They will be able to correlate the knowledge of physical geography with the human geography.
PSO2	Develop Knowledge of Human Geography	To analyze the distribution of population and development of society in respect of space and time to make a sustainable world.
PSO3	Ability of Reasoning & Problem Analysis	The Student will be able to enhance the skill of creative thinking and problem analysis in thoughts and actions in their respective areas.
PSO4	Organize field Survey to enhance observation power and preparation of a project report	To frame a survey schedule to conduct environmental and social survey which is needed for measuring the physical and social status of development
PSO5	Acquiring the knowledge of Social and Cultural Geography	The acquired knowledge is used to solve the ongoing socio-cultural problems of the society.

PSO6	Application of Remote Sensing & GIS and modern Geographical Map Making Techniques	To develop modern techniques of remote sensing and aerial photography and to learn to prepare thematic map based on RS & GIS
PSO7	Development of field Observation Power	To apply the acquired knowledge to develop their observation power through field experience and in future they will be able to identify the socio-environmental problems in respect of space and time.
PO8	Expertise with Recent Developments	To aware recent developments that took place in the subject area, to keep oneself dynamic.
PO10	Enhance Communication Skills	To develop sound vocabulary and excellent communication skills

COURSE OUTCOME (PG)
DEPARTMENT OF GEOGRAPHY
M.SC. (CBCS)

SEMESTER	PAPER NAME	COURSE	COURSE OUTCOME
1ST SEMESTER	GEO 101: EARTH'S SURFACE PROCESS [GEO 101.1: GEOTECTONICS & GEOMORPHOLOGY]	GEO 101	<p>CO 101.1. To develop an in-depth concept on the fundamental physical laws towards understanding the initial phases of the early universe with special reference to the Earth.</p> <p>CO 101.2. To gain knowledge about endogenetic and exogenetic processes i.e. earthquakes, volcanoes and associated landforms.</p> <p>CO 101.3. To develop an idea about geomorphology and different types of fundamental concepts and geomorphic processes like weathering and mass wasting and cycle of erosion.</p> <p>CO 101.4. To understand the processes of erosion, deposition and resulting landforms.</p>
	GEO 102: HYDROSPHERIC [GEO 102.1: OCEANOGRAPHY SCIENCES] GEO 102.2: HYDROLOGY]	GEO 102	<p>CO 102.1. To understand the marine environment and oceanographic processes that leads to earth system processes</p> <p>CO 102.2. To learn about the working principle of earth system processes that lead to water availability and necessity for water management in the context of global climatic change.</p> <p>CO 102.3. This understand water budgeting in global perspective and formulating plan for water use and water management..Gain knowledge about survey instrument and its application in ground.</p> <p>CO 102.4 To create awareness among community for rain water harvesting and judicial water use</p>

<p style="text-align: center;">GEO 103: CLIMATE, SOIL & AGRICULTURE [GEO 103.1: CLIMATOLOGY & GEO 103.2: SOIL AND AGRICULTURAL GEOGRAPHY]</p>	<p>GEO 103</p>	<p>CO 103.1.To built basic understanding of the climate system and space-time scale variation of weather and climate.</p> <p>CO 103.2. To understand the weather and climatic processes working on earth and to assess and predict the weather phenomena and its related hazards and hazard and disaster management .</p> <p>CO 103.3. To understand functional integration of various process in formation and distribution of different types of soil and their implication of agricultural systems</p> <p>CO 103.4. To acquire knowledge on soil survey techniques to analyse patio-temporal distribution of agricultural systems.</p>
<p style="text-align: center;">GEO 104: ENVIRONMENTAL GEOGRAPHY [GEO 104.1: BASICS OF ENVIRONMENT AND ECOLOGY & GEO 104.2: LANDSCAPE ECOLOGY AND PLANNING]</p>	<p>GEO 104</p>	<p>CO 104.1 To understand the interrelationship between living and non-living components environment in which we live and to create students leadership attitude as an environmental manager.</p> <p>CO 104.2. To address the complex environmental issues from a problem-oriented, interdisciplinary perspective and their application in to solve environmental problem.</p> <p>CO 104.3. To detect, analyze, or simulate landscape change; and modelling populations or communities in landscape mosaics and to educate students for professional life</p>
<p style="text-align: center;">GEO 195: HYDROLOGICAL TECHNIQUES AND SEDIMENTOLOGICAL ANALYSIS [GEO 195.1: HYDROLOGICAL TECHNIQUES & GEO 195.2: SEDIMENTOLOGICAL ANALYSIS]</p>	<p>GEO 195 [Practical]</p>	<p>CO 195.1 To develop skills in application of theoretical knowledge of hydrology as well as laboratory techniques for estimating different hydrological attributes as for example rainfall, run off, infiltration etc</p> <p>CO 195.1 To train thoroughly about laboratory method and field method of sediment analysis.</p>

2ND SEMESTER	GEO 196: THEMATIC MAPPING [GEO 196.1: ENVIRONMENTAL MAPPING & GEO196.2: PHYSICAL AND SOCIAL THEMATIC MAPPING]	GEO 196 (Practical)	<p>CO196.1 To develop cartographic skills for constructing various thematic maps and enhance abilities in showing the spatial distribution and conservation of various environmental elements i.e. vegetation, soil, water etc. and their proper interpretation.</p> <p>CO196.2 To develop cartographic skills for constructing various thematic maps and spatial distribution of various physical as well as social elements and their proper interpretation.</p>
	GEO 201: ENVIRONMENTAL APPROACHES & APPLICATION GEO 201.1: ENVIRONMENTAL ETHICS AND REGULATIONS & GEO 201.2: ENVIRONMENTAL ENGINEERING	GEO 201	<p>CO 201.1 To examine the moral relationship between human beings and non-human beings and its implications for an ethical life includes both philosophical bases (moral obligations, the nature of value).</p> <p>CO 201.2. To demonstrate the ethical conduct in all scientific activities.</p> <p>CO 201.3. To learn about the necessity and mechanism of waste water treatment and understand the procedures to manage air and noise pollution.</p> <p>CO 201.4. To acquire fundamental understanding and knowledge in making of pollution free environment.</p>
	GEO 202: POPULATION & DEVELOPMENT GEO 202.1: POPULATION GEOGRAPHY & GEO 202.2: POPULATION & DEVELOPMENT	GEO 202	<p>CO 202.1 To develop an idea of the population and the measures of human development</p> <p>CO 202.2 To know Human Development Index and other indices to assess the quality of human population</p>
	GEO 203: REGIONAL GEOMORPHOLOGY & RESOURCE MANAGEMENT GEO 203.1: REGIONAL GEOMORPHOLOGY OF INDIA AND WEST BENGAL & GEO 203.2: LAND, WATER AND FOREST: CONFLICT AND CONSERVATION	GEO 203	<p>CO 203.1 To know about the regional boundaries of resource-based geomorphological regions in India and also understand the physiographic diversity of India with special reference to West Bengal, their unique characteristics and regional importance.</p> <p>CO 203.2 To acquire knowledge about availability of primary resources i.e. land, water and forests, their conflicts in uses and conservation methods.</p>

3RD SEMESTER	GEO 295: STATISTICAL TECHNIQUES [GEO 295.1: STATISTICAL TECHNIQUES & GEO 295.2: ADVANCED QUANTITATIVE METHODS]	GEO 295	<p>CO - 295.1. To apply the acquired statistical knowledge in different spatial issues</p> <p>CO - 295.2. Review of the significance of advance quantitative techniques in Geography and its application.</p>
	GEO 296: REMOTE SENSING AND COMPUTER APPLICATION GEO 296.1: PRINCIPLES OF REMOTE SENSING AND AERIAL PHOTOGRAPHY & GEO 296.2: COMPUTER BASICS AND APPLICATIONS	GEO 296	<p>CO - 296.1. Gain knowledge about Principles, Types & use of Remote Sensing</p> <p>CO- 296.2. Develop an idea about False Color Composites from IRS LISS-3 and Landsat TM and OLI data.</p> <p>CO- 296.3. Build an idea about image interpretation and development planning with the help of remote sensing techniques.</p> <p>CO- 296.3. Review of the significance of computer in Geography and its application.</p>
	GEO-301: APPROACHES TO REGIONAL DEVELOPMENT GEO 301.1: REGIONAL APPROACH IN GEOGRAPHY & GEO 301.2: RURAL DEVELOPMENT	GEO-301	<p>CO 301.1. Develop knowledge about the region, regionalization and Regional Development in India</p> <p>CO 301.2. Analyze the theories and models for Regional approach in Geography</p> <p>CO 301.3. Identify the concept of rural development in India</p>
	GEO- 302: SETTLEMENT AND TRANSPORT GEOGRAPHY [GEO 302.1: SETTLEMENT GEOGRAPHY & GEO 302.2: TRANSPORT GEOGRAPHY]	GEO- 302	<p>CO 302.1. Develop knowledge about the spatial and structural characteristics and multi - disciplinary perspectives on the formation, evolution of human settlement of human settlements.</p> <p>CO 302.2. Understanding the scope of Settlement Geography, Characteristics, types, pattern and nature and process of Rural and Urban Settlements according to Indian Census</p> <p>CO 302.3. To learn about the role of transport in entire economic and social processes.</p> <p>CO 302.3. To understand the plan for regional development and economic regeneration by proper transport planning.</p>

		<p>CO 303.1. To acquire knowledge about the mechanism and working principle of geomorphic processes in details that lead to shape present earth-surface.</p> <p>CO 303.1. To understand the systematic interactions among terrestrial atmospheric and marine processes along the coastal areas</p> <p>CO 303.1. To address Urban land use and its impact on environment and ecology and to assemble knowledge of urbanism and urbanization process in the disciplines of Geography and Planning.</p> <p>CO 303.1. To acquire fundamental and some advanced knowledge of satellite based remote sensing and aerial photographic system.</p>
	<p>GEO 395: GIS APPLICATION IN RESEARCH</p>	<p>GEO 395(Practical)</p> <p>CO 395.1 This courses of special paper aims to present the essence of geography as a field science. Students will develop their scientific aptitude in observation, data generation through field survey, data analysis with various software and advanced techniques.</p> <p>CO 395.2. To know how to represent spatial data through various cartographic techniques and mapping. A hands on practical training is practiced through rigorous involvement in all the stages of pre-field, field and post field works and report writing.</p>
	<p>GEO 396: SPECIAL PAPER BASED FIELD WORK</p>	<p>GEO 396 (Practical)</p> <p>CO 396.1. Understanding the concept of Research in Geography: Meaning, types and significance</p> <p>CO 396.2. Acquire knowledge of the concept of Literature review and formulation of research design</p> <p>CO 396.3. Identify the problems, objectives and hypothesis of research work.</p> <p>CO 396.4. Prepare a notes, references, bibliography, abstract and keywords of a research work</p>
<p>4TH SEMESTER</p>	<p>GEO 401: GEOGRAPHICAL PHILOSOPHY GEO 401.1: SCHOOLS IN GEOGRAPHICAL THOUGHT & GEO 401.2: CONTEMPORARY DISCOURSES IN GEOGRAPHY</p>	<p>GEO 401</p> <p>CO 401.1. To acquire fundamental concepts of geographical thought. It includes the premier concepts of geography at the time of its emergence to the past century (20th century).</p> <p>CO 401.2. To develop comprehensive idea of the fundamental nature of Geography and how it evolves with time.</p>

<p>GEO 402: POLITICAL GEOGRAPHY AND GLOBALIZATION GEO 402.1: POLITICAL GEOGRAPHY & GEO 402.2: GEOGRAPHY OF GLOBALIZATION</p>	<p>GEO 402</p>	<p>CO 402.1. To understand the wide and dynamic philosophical domain of the discipline towards developing geography as a science. CO 402.2. To develop their understanding on politics of space and spatial patterns of political and economic power distribution in world context and regional disparities in India. CO 402.3. To focus on the basic concepts of globalization and its overall impacts on agriculture, industry, trade and culture. CO 402.4. To gain knowledge on the issues and challenges of globalization faced by the countries across the world.</p>
<p>GEO 403: SOCIETY AND REGIONAL PLANNING [GEO 403.1: SOCIAL AND CULTURAL GEOGRAPHY & GEO 403.2: REGIONAL PLANNING]</p>	<p>GEO 403</p>	<p>CO 403.1. To understand the nature, scope, and concept, social divisions such as class, 'race'/ethnicity, gender and sexuality relationship between culture and social environment, and right of information act, the cultural complex and traits of culture and its concepts. CO 403.2. To know about civilization and cultural system according to religion, language and geography, and global cultural changes. CO 403.3. To know the process of regional planning in India, its role and various strategy for the development of our country. The students will understand how they can participate in the planning and development of the nation. CO 403.4. To gain knowledge to make effective policies for the government for smooth conduction of the development planning.</p>
<p>GEO 404: SPECIAL PAPERS 404A: ADVANCED GEOMORPHOLOGY, GEO 404A.2: APPLIED GEOMORPHOLOGY, 404B: COASTAL MANAGEMENT, 404C: URBAN GEOGRAPHY AND REGIONAL PLANNING, 404D: REMOTE SENSING AND GEOGRAPHIC INFORMATION SYSTEM</p>	<p>GEO 404</p>	<p>CO 404.1. To learn about the empirical methods to estimate various geomorphic attributes by using field instruments or through models run by sophisticated software. This will offer them training on data generation, computation and analysis. CO 404.1. Application of theoretical knowledge of geomorphology in wide range of engineering and management problems ranging from land use planning, sewage and solid waste management drainage basin management to hazard management.</p>
<p>PAPER – GEO 495: GEODESY AND GIS</p>	<p>GEO 495(Practical)</p>	<p>CO 495.1. To provide the fundamental ideas of Geodesy and map projection. It includes some advance projective transformation from 3D to 2D surface. CO 495.2. To include the fundamentals of Geographical Information science and its application. CO 495.3. To prepare a thematic map with the help of GIS techniques</p>

**GEO 496: SPATIAL
ANALYSIS
AND PROTOTYPE
RESEARCH**

GEO 496(Practical)

CO 496.1. To focus of this course is to give a comprehensive understanding of the spatial organization through mathematical and statistical analysis.
CO 496.2. To include knowledge and skills to perform spatial analysis at different spatial scale.