

Programme Objective

Sl No.	On completing of B.Sc, Students will be able to
PO1	Critical Thinking: This outcome involves training students to think critically and independently. Critical thinking skills help graduates make informed decisions and solve problems effectively.
PO2	Problem-solving: BA programmes should equip students with problem-solving skills. Graduates should be capable of identifying complex issues, analysing root causes, and effective solutions. This skill is valuable in both personal life and professional careers.
PO3	Employability: On graduating, the students will be eligible for employment in the field of education and other industries like tourism, media, hospitality,etc. Their skills in comprehension of general social phenomena around them place the main ideal situation for such jobs. They will also be able to appear for competitive examinations conducted for public sector jobs.
PO4	Interdisciplinary Knowledge: Depending on their chosen major, minor and interdisciplinary subjects within the BSc programme, students should develop expertise in their specific area of study, whether literature, history, geography, political science or another field. This specialised knowledge provides depth in their chosen discipline.

**DEPARTMENT OF GEOGRAPHY  
HERAMBA CHANDRA COLLEGE**

Program B.Sc. Geography( HONS)

**Programme Specific Outcomes (PSO) for B.Sc. GEOGRAPHY**

<b>Sl No.</b>	<b>On completing B.Sc Geography students will be able to</b>
<b>PSO 1</b>	They will have an idea about the fundamental concepts of Geography and will have a general understanding about the geomorphologic and Geo-tectonic process and formation.
<b>PSO 2</b>	Students can correlate the knowledge of physical geography with the human geography. They will analyze the problems of physical as well as cultural environments of both rural and urban areas and possible measures.
<b>PSO 3</b>	They will be capable of conducting social survey project which is needed for measuring the status of development of a particular group or section of the society. This will enable them to analyse the associated problems with the help of statistical techniques.
<b>PSO 4</b>	They will understand the functioning of global economies, politics of world resource, geopolitics, global geostrategic views and functioning of political systems. They will be aware of how resource utilisation and allocation leads to development, management and conflict.
<b>PSO 5</b>	Students will develop an idea on sustainable approach towards the soil management, ecosystem and the biosphere with a view to conserve natural systems and maintain ecological balance. They will have an idea about the global water cycle.
<b>PSO 6</b>	Inculcate a tolerant mindset and attitude towards the vast socio-cultural diversity of India by studying and discussing contemporary concepts of social and cultural geography. Explaining and analysing the regional diversity of India through interpretation of natural and planning regions.
<b>PSO 7</b>	The students will become aware of the present climatic condition of the world which will help them analyse the need for sustainable development. The various types of environmental hazards have been addressed so that students become aware of measures to protect the physical environment. they have a knowledge about the physical and chemical properties of water. They become aware of the global ocean resources.
<b>PSO 8</b>	They will be capable of analyzing the differential patterns of the human habitation of the Earth, through studies of human settlements and population dynamics. Understanding and accounting for regional disparities, poverty, unemployment and the impacts of globalization
<b>PSO 9</b>	Understanding the history of the subject; over viewing ancient and contemporary geographical thought and its relationship with modern concepts of empiricism, positivism, radicalism, behaviouralism , idealism etc.
<b>PSO 10</b>	They get the knowledge in practical techniques like using instruments for survey, mapping, cartography, software, interpretation of maps, photographs and images etc; This makes them understand the spatial variation of phenomena on the Earth's surface. They will learn how to prepare map based on GIS by using the modern geographical map making techniques. They will also learn the use of satellite imageries and mapping techniques using supervised image classification. They will learn to collect waypoints using GNSS and associated skills.

Course Outcomes (CO) are mapped to the revised Bloom's Taxonomy using the following abbreviations

R- Remembering, U- Understanding, Ap- Applying, An- Analysing, E- Evaluating, C- Creating

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**Semester-I (July to December)**

**Core Course 1: Geotectonics and Geomorphology**

**Course Code: CC1**

PROGRAMME	B.Sc. Hons Geography
COURSE CODE	COURSE NAME
CC1	Geotectonics and Geomorphology
YEAR & SEMESTER	1 <sup>st</sup> Year 1 <sup>st</sup> Semester
PREREQUISITE COURSE	Nil
COURSE OBJECTIVE	Understanding Earth's surface processes and landscape evolution

Sl. No.	Course Outcome	On completing the course, the students will be able to:	PO Addressed	PSO Addressed	Cognitive level
UNIT I: GEOTECTONICS	CO1	Understand the theories and fundamental concepts of Geotectonics and structural evolution. Gains knowledge about earth's interior. Develop an idea about concept of plate tectonics and resultant landforms. Acquire knowledge about types of folds, faults, earthquakes, volcanoes and associated landforms. Understand crustal mobility and tectonics.	1,2,3,4	1	U,An
UNIT II: GEOMORPHOLOGY	CO2	Overview and critical appraisal of landform development models by different degradational process like weathering and mass wasting. Understand different processes of entrainment, transportation and deposition by different geomorphic agents like river, glacier, waves and wind. Overview and critical appraisal of landforms development models.	1,2,3,4	1	U,An,Ap
Geotectonics and Geomorphic lab	CO3	Learn to identify different rocks and minerals. Learn to study and interpret topographical map using various appropriate techniques.	1,2,3,4	10	R,Ap,An

	PO1	PO2	PO3	PO4	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO 10
CO1	2	2	1	3	3									
CO2	2	2	1	3	2									
CO3	2	2	1	3										3
<b>Average</b>	<b>2</b>	<b>2</b>	<b>1</b>	<b>3</b>	<b>2.5</b>									<b>3</b>
Correlation level						1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)								

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**Semester-1 (July to December)**

**Core Course II: Cartographic Technique**

**Course Code: CC2**

PROGRAMME	B.Sc. HONS (GEOGRAPHY)
COURSE CODE	COURSE NAME
CC2	Cartographic Technique
YEAR AND SEMESTER	1 <sup>ST</sup> YEAR 1 <sup>ST</sup> SEMESTER
PREREQUISITE COURSE	Nil
COURSE OBJECTIVE	Ability to collect and interpret physical and geographic data for a region

Topic No.	Course Outcome	On completing the course the students will be able to	PO Addressed	PSO Addressed	Cognitive level
1,2,3 Maps,scales,co-ordinate system	CO1	Recognize basic themes of map making. Development of observation skills. Representation of points & lines.	1,2,3,4	6, 10	U,Ap
4,5,6 Concept of generating globe,grids,bearing	CO2	Development of idea on conceptual model of earth. Represent specific locations on the globe and different directions.	1,2,3,4	6, 10	U,R,An,Ap
7,8,9 Concept of Geoid and spheroid,Map projections,UTM projection	CO3	Detailed study of different regions. Measurement of elevations for determining the Earth's gravity field. Provides idea on a constant distance relationship anywhere on the map.	1,2,3,4	6, 10	U,R,An,Ap
10,11,12 Representations of data by different methods, Reference scheme for topographical maps	CO4	Understand and prepare different kind of maps. Development an idea about different types of thematic mapping techniques. Application of maps for any kind of geographic planning.	1,2,3,4	6, 10	U,Ap
CARTOGRAPHIC TECHNIQUES LAB	CO5	Application of different mapping techniques. Develop the skills of identifying of features and co- relation between them.	1,2,3,4	10	U,An,Ap

	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	2	2	2						3				3
CO2	3	2	2	2						2				2
CO3	3	2	2	2						3				3
CO4	3	2	2	2						3				1
CO5	3	2	2	2										3
<b>Average</b>	<b>3</b>	<b>2</b>	<b>2</b>	<b>2</b>						<b>2.75</b>				<b>2.4</b>
Correlation level					1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)									

**Semester –II (January to July)**

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**Core Course III: Human Geography**  
**Course Code: CC3**

PROGRAMME	B.Sc. HONS GEOGRAPHY
COURSE CODE	COURSE NAME
CC3	Human Geography
YEAR & SEMESTER	1 <sup>st</sup> YEAR 2 <sup>nd</sup> SEMESTER
PREREQUISITE COURSE	Nil
COURSE OBJECTIVE	Basic idea about human geography

Sl. No.	Course Outcome	On completing the course the students will be able to	PO Addressed	PSO Addressed	Cognitive level
UNIT I: Nature and Principles	CO1	To learn the nature, scope and recent trends. Elements of human geography. To understand the approaches to Human Geography. To know the concept and classification of race and ethnicity. To learn the relationship between space, society and cultural regions.	1,2,4	2,6	R,U,An
UNIT II: Society, Demography and Ekistics	CO2	To understand the evolution of human societies. To know human adaptation to environment. To learn the relationship between population growth and development. To understand the Population-resource regions by Ackerman. To know the conflict between development and environment. To learn the types and patterns of rural settlements. To know the rural house types in India. To understand the morphology and hierarchy of urban settlements.	1,2,4	4,8	R,U,An
Human Geography Lab	CO3	To show the spatial variation in continent or country-level religious composition. To measure the arithmetic growth rate. To learn the different types of Age-sex pyramids. To understand the nearest neighbour analysis.	1,2,4	10	U,E,C

	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	3	2	3		2				3				
CO2	3	3	2	3			2					3		
CO3	3	3	2	3										3
<b>Average</b>	<b>3</b>	<b>3</b>	<b>2</b>	<b>3</b>		<b>2</b>		<b>2</b>		<b>3</b>		<b>3</b>		<b>3</b>
Correlation level						1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)								

**Semester-II (January to July)**

**Core Course 4: Thematic Mapping and Surveying**

**Course Code: CC4**

PROGRAMME	B.SC. HONS. GEOGRAPHY
COURSE CODE	COURSE NAME
CC4	Thematic Mapping And Surveying
Year and Semester	1 <sup>st</sup> year 2 <sup>nd</sup> Semester
Prerequisite course	Nil
Course objective	To create basic ideas of Thematic Mapping and Surveying.

Sl No.	Course Outcome	On completing the course the students will be able to	PO Addressed	PSO Addressed	Cognitive level
1,2,3	CO1	Learn the concepts of rounding, scientific notation; logarithm & anti-logarithm. Nature of log scale Understanding the concept of diagrammatic representation of data To know about the preparation & interpretation of geological map	1,2,3,4	3, 10	U,Ap
4,5,6	CO2	To learn the preparation & interpretation of weather map. To understand the preparation & interpretation of landuse & landcover maps. To gain an idea of the preparation & interpretation of socio economic maps	1,2,3,4	10	U,Ap,An,E
7,8,9	CO3	To gain knowledge about principle national agencies like NATMO, GSI, NBSSLUP,NHO,NRSC/BHUVAN etc To understand the basic concepts of Prismatic Compass To gain an idea of survey from Dumpy level	1,2,3,4	3, 10	U,Ap,An,E
10,11,12	CO4	To learn the basic concepts of Theodolite . To gain the knowledge about the basic concept of Abney level survey. To gain an idea of survey from Laser Distance Measurer	1,2,3,4	10	U,Ap,An,E
Thematic Mapping & Surveying Lab	CO5	To learn practically Traverse survey using prismatic compass	1,2,3,4	10	U,Ap,An,E

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		Learn Profile survey using Dumpy Level To determine height of an object by Theodolite To interpret the geological map.			
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	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	3	3	2										1
CO2	3	3	2	2										3
CO3	3	3	2	2			3							3
CO4	2	3	3	2										3
CO5	3	3	3	2										3
<b>Average</b>	<b>2.8</b>	<b>3</b>	<b>2.6</b>	<b>2</b>			<b>3</b>							<b>2.6</b>
<b>Correlation level</b>						<b>1-Low( 40%&lt;Achievement&lt;50%), 2- Medium (50%&lt;Achievement&lt;60%), 3- High ( 60%&lt;Achievement)</b>								

**Semester- III (July to December)**

**Core Course –05-Climatology**

Course Code: CC5

Programme	B.Sc HONS Geography
Course Code	Course Name
CC5	Climatology
Year and Semester	2nd year 3rd semester
Prerequisite Course	Nil
Course Objective	To understand the climate system and their associated climate outcomes.

SL No	Course Outcome	On completing the course, the student will be able to:	PSO Addressed	Cognitive level
Unit I: Elements of the atmosphere	CO1	Concept about the conditions of atmospheric components Understand the temperature distribution Learn about Cause and effects of climatic change	7	R, U
Unit II: Atmosphere Phenomena and Climatic classification	CO2	Idea about atmospheric phenomena, Their origin, characteristics and circulation Get an idea of climatic disturbances. Gain knowledge about Climatic classification	7	R,U
Climatology Lab	CO3	Measurements of weather elements using instruments. Graphical representation and interpretation of climatic condition using climatological diagram	10	R,U,E



**Semester- III (July to December)**

**Core Course –06-Hydrology and Oceanography**

Course Code: CC6

Programme	B.Sc HONS Geography
Course Code	Course Name
CC6	Hydrology and Oceanography
Year and Semester	2nd year 3rd semester
Prerequisite Course	Nil
Course Objective	Study of the interrelationship between water and environment and to differentiate between underwater formations, seawater composition and qualities

SL No	Course Outcome	On completing the course, the student will be able to:	PSO Addressed	Cognitive level
Unit I : Hydrology	CO1	Concept of studying the natural distribution and movement of water.  To understand the impact of human activities on water quality and with problems in water management	5,7	R,U
Unit II: Oceanography	CO2	Understanding the chemical, physical, geological and biological processes that affect the surface of the ocean.  Learn about the sustainable uses of ocean resources.	5,7	R,U
Hydrology and Oceanography Lab	CO3	Measuring the continuous records of stream or river discharge, rainfall amount over a long period of time  Knowledge about water level information over time  Construction and Analysis the meteorological data.	10	R, U, An

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1					3		2			
CO2					2		3			
CO3										3
Average					2.5		2.5			3
Correlation level	1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3-High ( 60%<Achievement)									

**Semester- III (July to December)**

**Core Course –7: Statistical Methods in Geography**

Course Code: CC7

Programme	B.Sc HONS Geography
Course Code	Course Name
CC7	Statistical Methods in Geography
Year and Semester	2 <sup>nd</sup> year 3 <sup>rd</sup> semester
Prerequisite Course	Nil
Course Objective	Significance and application of statistics in Geography

SL No	Course Outcome	On completing the course, the student will be able to:	PSO Addressed	Cognitive level
Unit I: Frequency Distribution and Sampling	CO1	Understand the importance of use of data in geography Learn about data types and tabulation of data Know about different types of sampling. Interpret statistical data for a holistic understanding of geographical phenomena.	3	U, An
Unit II: Numerical Data Analysis	CO2	Idea about data analysis. Learn about measures of central tendency Gains knowledge about correlation and regression Get an idea about hypothesis testing	3	U, Ap, An
Statistical Methods in Geography Lab	CO3	Handling of data, tabulation and sampling Using sampled data for regression	3, 10	An

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1			3							
CO2			2							
CO3			3							3
Average			2.68							3
Correlation level	1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3-High ( 60%<Achievement)									

**Semester- III (July to December)**

**Core Course –SEC: Coastal Management**

**Course Code: GEO-A-SEC-A-3**

Programme	B.Sc HONS Geography
Course Code	Course Name
SEC	Coastal Management
Year and Semester	2 <sup>nd</sup> year 3 <sup>rd</sup> semester
Prerequisite Course	Basic knowledge of geomorphology
Course Objective	To plan for, and where appropriate, restrict development activities where such activities would damage or destroy coastal resources

SL No	Course Outcome	On completing the course, the student will be able to:	PSO Addressed	Cognitive level
I: Components of a coastal zone. Coastal morphodynamic variables and their role in evolution of coastal forms	CO1	Know about the zonation of the coastal are, its parts. Nature of sediments and its function in preparing coastal landforms	1,	R, U
II: Environmental impacts and management of mining, oil exploration, salt manufacturing, land reclamation and tourism	CO2	Gauge the importance of management of coastal areas in terms of exploration, construction and tourism Environmental condition of the coastal area and the impact of increasing construction and tourism The various methods to check environmental degradation	1,7	U, R, Ap
III: Coastal hazards and their management using structural and non-structural measures: Erosion, flood, sand encroachment, dune degeneration, estuarine sedimentation and pollution	CO3	Know about the various coastal hazards Disaster mitigation measures which includes both structural and non-structural measures Understand the important aspect of coastal planning to improve society's resilience to coastal hazards.	1,6,7	R, U, E
IV: Principles of Coastal Zone Management. Exclusive Economic Zone and Coastal Regulation Zones with reference to India.	CO4	Gains a knowledge on how to create a balance between development needs and protection of natural resources. Learn about the guiding principles of sustainability then livelihoods of millions residing along the coast A knowledge about the plan for, and where appropriate, restrict	1, 6,7,8	R,U,E

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		development activities where such activities would damage or destroy coastal resources is gained.		
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	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
<b>CO1</b>	3									
<b>CO2</b>	2						3			
<b>CO3</b>	3					2	3			
<b>CO4</b>	3					3	3	2		
<b>Average</b>	2.75					2.5	3	2		
<b>Correlation level</b>	1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)									

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**Semester- IV (January to June)**

**Core Course – Economic Geography**

**Course Code: CC-8**

Programme	B.Sc HONS Geography
Course Code	Course Name
CC-8	Economic Geography
Year and Semester	2nd year 4th semester
Prerequisite Course	A general knowledge about the key concepts in economic geography location, transportation, resources, and trade
Course Objective	Understand the concept of economic activity, factors

	Course Outcome	On completing the course, the student will be able to:	PSO Addressed	Cognitive level
Unit I: Concepts	CO1	Meaning, approach and objectives of the subject Economic Geography is the study of man and his economic activities under varying sets of conditions Idea about sectors of Economy	4	U,R
Unit II: Economic Activities	CO2	the process in which various inputs, such as land, labour, and capital, are used to produce the outputs in the form of products or services. Idea about International trade and economic blocs along the evolution and functioning of WTO and BRICS	4	U,R,E
Economic Geography Lab	CO3	They can know about transport network analysis Map and interpret data on production and economic indices	8,10	U, An

	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1				3						
CO2				3						
CO3								2		3
Average				3				2		3
Correlation level	1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3-High ( 60%<Achievement)									

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**Semester- IV (January to June)**

**Core Course- Regional Planning and Development**

**Course Code: CC 09**

Programme	B.Sc. HONS Geography
Course Code	Course Name
CC 09	Regional Planning and Development
Year and Semester	2nd year 4th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To equip students with basic ideas of regional approach towards planning and development

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
Unit 1 Regional Planning	CO1	understand concept of region; types, principles, objectives and techniques of regional planning; regional and multilevel planning in India; concept of metropolitan area and urban agglomeration	1,2,3,4	8, 6	U, Ap, An, Ev
Unit 2 Regional Development	CO2	conceptualise the issues regarding growth and development; theories of regional development; regional disparity; balanced development in India	1,2,3,4	8, 6	U, Ap, An, Ev
Regional Planning and Development (Lab.)	CO3	learn the methods of delineating regions; measuring inequality and regional disparity	1,2,3,4	8, 6, 10	U, Ap, An

	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
<b>CO1</b>	3	2	3	1						3		3		
<b>CO2</b>	3	2	3	1						3		3		
<b>CO3</b>	3	2	3	1										3
<b>Average</b>	<b>3</b>	<b>2</b>	<b>3</b>	<b>1</b>						<b>3</b>		<b>3</b>		<b>3</b>
<b>Correlation level</b>	<b>1-Low (40% &lt; Achievement &lt; 50%), 2- Medium (50% &lt; Achievement &lt; 60%), 3- High (60% &lt; Achievement)</b>													

**Semester- IV (January to June)**

**Core Course- Soil and Biogeography**

**Course Code: CC 10**

Programme	B.Sc. HONS Geography
Programme	B.Sc. HONS Geography
Course Code	Course Name
CC 10	Soil and Biogeography
Year and Semester	2nd year 4th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To make students learn basic ideas of soil and biosphere

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
Unit 1 Soil Geography	CO1	learn factors of soil formation; physical and chemical properties of soil; origin and characteristics of soil profiles; classification of soil	1,2,3,4	2, 5	U, Ap
Unit 2 Biogeography	CO2	gain knowledge on biosphere, ecosystem, ecology etc.; energy flow in ecosystem; concept of biome and biogeochemical cycles; issues regarding deforestation and biodiversity	1,2,3,4	2, 5	U, Ap, An, Ev
Soil and Biogeography (Lab.)	CO3	learn the methods of determining soil reaction (pH) and soil salinity using field kit; identification of textural type of soil; construction of plant species diversity matrix; time series analysis of biogeographical data	1,2,3,4	2, 5, 10	U, Ap, An

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	PO 1	PO 2	PO 3	PO 4	PSO 1	PSO 2	PSO 3	PSO 4	PSO5	PSO 6	PSO 7	PSO 8	PSO9	PSO10
CO1	3	2	3	2					2					
CO2	3	3	3	2		2			3					
CO3	3	3	1	2										3
Average	<b>3</b>	<b>2.67</b>	<b>2.37</b>	<b>2</b>		<b>2</b>			<b>2.5</b>					<b>3</b>
Correlation level							1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)							

Skill Enhancement Course B-03: Rural Development  
Course Code: SEC-B-4-03

Programme	B.Sc. HONS Geography
Course Code	Course Name
SEC-B-4-03	Rural Development
Year and Semester	2nd year 4th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To equip students with basic ideas of and approaches towards rural development including rural governance

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
Unit 1 Rural Development	CO1	conceptualise basic elements and measures of level of rural development	2,3,4	2, 3, 6, 8	U, Ap
Unit 2 Rural Development	CO2	learn paradigms of rural development	2,3,4	2, 3, 6, 8	U, Ap, An, Ev
Unit 3 Rural Development	CO3	gain knowledge on area based approach of rural development in India	2,3,4	2, 3, 6, 8	U, Ap, An, Ev



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Unit 4 Rural Developm ent	CO4	Understand the issues concerning rural governance with special reference to the Panchayati Raj System in India; rural development policies and programmes in India	2,3,4	2, 3, 6, 8	U, Ap, An, Ev
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	PO1	PO2	PO3	PO4	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO10
CO1	3	3	3	3		3	3			3		3		
CO2	3	3	3	3		3	3			3		3		
CO3	3	3	3	3		3	3			3		3		
CO4	3	3	3	3		3	3			3		3		
Average	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>		<b>3</b>	<b>3</b>			<b>3</b>		<b>3</b>		
Correlation level						1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)								

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**Semester V (July-Decembr)**

**Core Course 11: Research Methodology and Fieldwork**

**Course Code: CC 11**

Programme	B.Sc. HONS Geography
Course Code	Course Name
CC 11	Research Methodology and Fieldwork
Year and Semester	3rd year 5th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To equip students with basic ideas of research and fieldwork and various methodologies

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
Unit 1 Research Methodology	CO1	Realise the meaning and significance of research in Geography; concepts associated with any research, like literature review, research design, research problem, objectives and hypothesis, research materials and methods; techniques of writing scientific report; and also plagiarism	1,2,3,4	2, 3	U, Ap, An, Ev
Unit 2 Fieldwork	CO2	conceptualise the significance of fieldwork in Geographical studies; field techniques and tools; sampling; pre-field and post-field works; ethics and logistics of fieldwork	1,2,3,4	2, 3	U, Ap, An, Ev
Regional Planning and Development (Lab.)	CO3	learn how to participate in a fieldwork and to prepare a field report following stipulated guidelines	1,2,3,4	2, 3, 6, 8, 10	U, Ap, An, Ev

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	PO 1	PO2	PO3	PO4	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO10
CO1	3	3	3	2		3	3							
CO2	3	3	3	2		3	3							
CO3	3	3	3	2		3	3			2	2			3
Average	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>		<b>3</b>	<b>3</b>			<b>2</b>	<b>2</b>			<b>3</b>
Correlation level					1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)									

**Semester V (July-Decembr)**

**Core Course 12: Remote Sensing, GIS and GNSS**

**Course Code: CC 12**

Programme	B.Sc. HONS Geography
Course Code	Course Name
CC 12	Remote Sensing, GIS and GNSS
Year and Semester	3rd year 5th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To equip students with basic ideas and utilisation of remote sensing, GIS and GNSS

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
Unit 1 Remote Sensing	CO1	Learn principles of remote sensing; image referencing scheme; preparation of FCC; Interpretation of image; acquisition and utilisation of DEM	1,2,3,4	10	U, Ap
Unit 2 GIS and GNSS	CO2	Learn GIS data structure and types; preparation of attribute table; data manipulation and overlay analysis; buffer preparation	1,2,3,4	10	U, Ap
Unit 3 GNSS	CO3	Understand principles of GNSS positioning and	1,2,3,4	10	U, Ap

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		waypoint collection; transferring of GNSS waypoints to GIS; calculation of area and length			
Remote Sensing, GIS and GNSS (Lab.)	CO4	Learn image georeferencing and enhancement, preparation of reflectance libraries; supervised image classification, class editing, and post-classification analysis; digitisation of features and administrative boundaries; data attachment, overlay, and preparation of annotated thematic maps; Waypoint collection from GNSS receivers and exporting to GIS database	1,2,3,4	10	U, Ap, An

	PO1	PO2	PO3	PO4	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO10
CO1	3	3	3	3										3
CO2	3	3	3	3										3
CO3	3	3	3	3										3
CO4	3	3	3	3										3
Average	<b>3</b>	<b>3</b>	<b>3</b>	<b>3</b>										<b>3</b>
Correlation level					1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3- High ( 60%<Achievement)									

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**Semester V**

**Discipline Specific Elective A-2: Climate Change: Vulnerability and Adaptation**

**Course Code: DSE-A**

Programme	B.Sc. HONS Geography
Course Code	Course Name
DSE A-2	Climate Change: Vulnerability and Adaptation
Year and Semester	3rd year 5th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To equip students with basic ideas of causes and consequences of climate change, measures of mitigation at national and international levels

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
1-3 Concept	CO1	Understand origin, scope and trend of climate change; evidences and factors	1,2,3,4	7	U, Ap, An
4-5 Causes	CO2	know about GHG; electromagnetic spectrum, atmospheric window, heat balance of the earth	1,2,3,4	7	U, Ap, An
7-8 Impact and Vulnerability	CO3	Learn about Physical, economic and social vulnerability	1,2,3,4	7	U, Ap, An
6, 9-12 Adaptive Measures	CO4	Know measures of mitigation and adaptation; reports of IPCC; global and regional initiatives to mitigate climate change, NAPCC of India, role of government at different levels	1,2,3,4	7	U, Ap, An
Climate Change: Vulnerability and Adaptation (Lab.)	CO5	Learn analysis of trends of temperature; comparative analysis of seasonal and annual variability of rainfall; preparation of inventory of extreme climatic event	1,2,3,4	7. 10	U, Ap, An

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	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
CO1	3	2	3	1							3			
CO2	3	3	2	1							3			
CO3	3	3	2	1							3			
CO4	3	3	2	1							3			
CO5	3	3	3	1							3			3
Average	<b>3</b>	<b>2.8</b>	<b>2.4</b>	<b>1</b>							<b>3</b>			<b>3</b>
Correlation level					1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3-High ( 60%<Achievement)									

**Semester- V (July to December)**

**Core Course –DSE-B Cultural and Settlement Geography**

Course Code: DSE-B

Programme	B.Sc HONS Geography
Course Code	Course Name
DSE-A	Cultural and Settlement Geography
Year and Semester	3rd year 6 <sup>th</sup> semester
Prerequisite Course	Nil
Course Objective	Understand the scope and content of cultural geography and trace the development of cultural geography in relation to allied Disciplines.

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SL No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive level
Unit I: Cultural Geography	CO1	Develop an understanding of cultural segregation and cultural diversity, technology and development Learn about the various races and racial groups of the world Identify the cultural regions of India	1,2,3,4	6,8	R, U
Unit II: Settlement Geography	CO2	Acquire knowledge about Rural settlements- Definition, nature and characteristics Analyze the morphology of both rural and urban settlements.	1,2,3,4	6,8	R, U
Cultural and Settlement Geography Lab	CO3	Develop the skill of mapping language distribution of India Learn to plot proportional squares to illustrate housing distribution Acquire the skill of identifying rural settlement types from topographical sheet Understand Social Area Analysis of a city based on Shevky and Bell	1,2,3,4	6,10	An,Ap

	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
<b>CO1</b>	2	2	2	3						3		3		
<b>CO2</b>	2	2	2	3						3		3		
<b>CO3</b>	2	2	2	3						2		2		3
<b>Average</b>	<b>2</b>	<b>2</b>	<b>2</b>	<b>3</b>						<b>2.67</b>		<b>2.67</b>		<b>3</b>
<b>Correlation level</b>					<b>1-Low( 40%&lt;Achievement&lt;50%), 2- Medium (50%&lt;Achievement&lt;60%), 3-High ( 60%&lt;Achievement)</b>									

**Semester- VI (January to June)**

**Core Course –13- Evolution of Geographical Thought**

Course Code: CC13

Programme	B.Sc HONS Geography
Course Code	Course Name
CC13	Evolution of Geographical Thought
Year and Semester	3rd year 6 <sup>th</sup> semester
Prerequisite Course	Nil
Course Objective	Know about the trends of geographical thoughts.

SL No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive level
Unit I: Nature of Pre Modern Geography	CO1	Perceive the evolution of the philosophy of Geography. Discussing the evolution of geographical thought from ancient to modern times.	1,2,3,4	9	R, U
Unit II: Foundations of Modern Geography and Recent Trends	CO2	Appreciate the contribution of the thinkers in Geography. To study the trends of geography in the post World War-II period Establishing relationship of Geography with other disciplines and man-environment relationships. Analyzing modern and contemporary principles of Empiricism, Positivism, Structuralism, Human and Behavioral Approaches in Geography	1,2,3,4	9	R, U
Evolution of Geographical Thought Lab	CO3	Give power point presentations on different schools of geographical thought. Changing perception of maps of the world based on Ptolemy, Ibn Batuta, Mercator and Mapping of voyages	1,2,3,4	9, 10	U, C



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	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
<b>CO1</b>	3	2	2	2									3	
<b>CO2</b>	3	3	2	2									3	
<b>CO3</b>	3	3	2	2									2	3
<b>Average</b>	<b>3</b>	<b>2.67</b>	<b>2</b>	<b>2</b>									<b>2.7</b>	<b>3</b>
<b>Correlation level</b>					<b>1-Low( 40%&lt;Achievement&lt;50%), 2- Medium (50%&lt;Achievement&lt;60%), 3- High ( 60%&lt;Achievement)</b>									

**Semester- VI (January to June)**

**Core Course –14- Hazard Management**

Course Code: CC14

Programme	B.Sc HONS Geography
Course Code	Course Name
CC14	Hazard Management
Year and Semester	3rd year 6 <sup>th</sup> semester
Prerequisite Course	Nil
Course Objective	Gain knowledge about approaches to hazard study and develop an idea about factors, consequences and management of different types of hazard

SL No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive level
Unit I: Concepts	CO1	Understand the definition, classification of hazards and disasters Develops an idea about responses to hazards: Preparedness, trauma, and aftermath	1,2,3,4	6,7	R, U
Unit II: Hazard-specific Study with Focus on West Bengal and India	CO2	Gain knowledge about approaches to hazard study. Develop an idea about factors, consequences and management of earthquake, landslide, flood and riverbank erosion. Acquire knowledge about human induced disaster.	1,2,3,4	6,7	R, U
Hazard Management Lab	CO3	Prepare hazard zonation maps. Assessing the nature, impact and management of major natural and man-made hazards affecting the Indian subcontinent.	1,2,3,4	6,7,10	An,Ap

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	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
<b>CO1</b>	3	3	3	2						3	3			
<b>CO2</b>	3	3	3	2						3	2			
<b>CO3</b>	3	3	3	2						2	2			3
<b>Average</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>						<b>2.67</b>	<b>2.34</b>			<b>3</b>
<b>Correlation level</b>	<b>1-Low( 40%&lt;Achievement&lt;50%), 2- Medium (50%&lt;Achievement&lt;60%), 3- High ( 60%&lt;Achievement)</b>													

**Semester- VI (January to June)**

**Discipline Specific Elective: Resource Geography**

**Course Code: DSE A-4**

Programme	B.Sc. HONS Geography
Course Code	Course Name
DSE A-4	Resource Geography
Year and Semester	3rd year 6th Semester
Prerequisite Course	Basic Class 12 Geography
Course Objective	To equip students with basic ideas of concept, distribution, utilisation, depletion and conservation of resources

SL. No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive Level
Unit I: Resource and Development	CO1	Understand the concept, classification and significance of resources; approaches to resource utilisation; problem of resource depletion; and the issue of sustainable resource development		4	U, Ap, An
Unit II: Resource Conflict and Management	CO2	Learn the distribution, utilisation, problems and management of specific resources; contemporary energy crisis; politics of power resources, concept of resource sharing		4	U, Ap, An
Resource Geograph	CO3	Learn the art of mapping and estimating area of changes in forest/ vegetation cover;		4, 10	U, Ap, An

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y (Lab.)		decadal changes in production of coal and iron ore; computing human development index			
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	PO 1	PO2	PO3	PO4	PSO 1	PSO 2	PSO 3	PSO 4	PSO 5	PSO 6	PSO 7	PSO 8	PSO 9	PSO10
CO1	3	2	3	1				3						
CO2	3	2	3	1				3						
CO3	3	2	3	2				3						3
Average	<b>3</b>	<b>2</b>	<b>3</b>	<b>1.34</b>				<b>3</b>						<b>3</b>
Correlation level					1-Low( 40%<Achievement<50%), 2- Medium (50%<Achievement<60%), 3-High ( 60%<Achievement)									

**Semester- VI (January to June)**

**Core Course –DSE-B Geography of India**

Course Code: DSE-B

Programme	B.Sc HONS Geography
Course Code	Course Name
DSE-B	Geography of India
Year and Semester	3rd year 6 <sup>th</sup> semester
Prerequisite Course	Nil
Course Objective	Recognize regional identities and environmental dimension of regionalization to address the issues and concern needed for regional planning

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SL No	Course Outcome	On completing the course, the student will be able to:	PO Addressed	PSO Addressed	Cognitive level
Unit I: Geography of India	CO1	Understand of climate, natural vegetation, agriculture and energy resources and industries of world. In-depth knowledge of climate, natural vegetation, agriculture and industries of India Recognize regional identities and environmental dimension of regionalization to address the issues and concern needed for regional planning	1,2,3,4	8	R, U
Unit II: Geography of West Bengal	CO2	Conceptualize the regional approaches and to examine regional differentiation in the study.	1,2,3,4	8	R, U
Geography of India Lab	CO3	Acquire knowledge about the climatic variations of different physiographic units of India along with trend of production of resources Learn about Crop combination by comparison of any two contrasting districts from West Bengal and Composite Index to show level of development in India	1,2,3,4	8,10	An,Ap

	PO1	PO2	PO3	PO4	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
<b>CO1</b>	2	3	3	3						3		3		
<b>CO2</b>	2	2	3	3						3		3		
<b>CO3</b>	2	3	3	2						2		2		3
<b>Average</b>	<b>2</b>	<b>2.67</b>	<b>3</b>	<b>2.67</b>						<b>2.67</b>		<b>2.67</b>		<b>3</b>
<b>Correlation level</b>					<b>1-Low( 40%&lt;Achievement&lt;50%), 2- Medium (50%&lt;Achievement&lt;60%), 3- High ( 60%&lt;Achievement)</b>									