

Department of Geography

Learning Objectives and Outcomes:

1. Program Outcomes:

The Geography program seeks to develop students who can identify, describe, analyse and solve the complex interactions that exist between the human and natural worlds. In an increasingly interconnected globe a commitment to expanding such understanding serves to help our students become global citizens, environmental stewards, policy makers, and scientists, and improve the quality of life for the citizens of India by helping better understand human impacts on the environment and interactions between society and Earth's natural systems.

Upon completion of the BA in Geography programs, majors will be able to:

1. Graduates will be able to explain physical processes and their spatial distribution on the Earth's surface, including landforms, climate, soils, vegetation, and hydrology.
2. Graduates will be able to distinguish and classify human characteristics, human activities and processes, and interpret their spatial distribution on the Earth's surface including the composition of population, cultural complexes, economic interdependence, settlement and political patterns.
3. Graduates will identify and critically analyse patterns of human-environment interactions, including perception, distribution and use of natural resources.
4. Graduates will recognize and explain the critical importance of location, proximity, and pattern in cause and effect relationships and be able to critically analyse those relationships through geospatial techniques.
5. Graduates will design maps to analyse and interpret patterns of physical and human characteristics on the Earth's surface and apply geospatial tools to appraise real-world problems.
6. Graduates will be able to explain principles and tools of geographic information science including cartography, remote sensing, and geographic information systems.
7. Graduates will be able to synthesize, critically evaluate and present geographic information that addresses human-environmental problems in written and oral form.

2. Program Specific Outcomes:

On Completion of the B.A -Geography Students are able to:

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: student 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.

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 their 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. Scientific Inquiry, Tools and Critical Thinking:

Students will demonstrate the ability to analyze, interpret, and draw conclusion about geographic problems and information including:

1. Demonstrating proficiency in using geographical research tools including spatial statistics, cartography, remote sensing, GIS and GPS.
2. Identifying, interpreting and analyzing geographic problems and processes.
3. Formulating a research methodology and executing a formal student-led research project.
4. Applying knowledge of global issues to a unique scientific problem.

5. Identifying human and environmental issues on global, regional, and local scales and critically assesses various perspectives on the issue.
6. Evaluating the impacts of human activities on natural environments.
7. Applying knowledge of global issues to local circumstances to evaluate the local effects of the issues.
8. Demonstrate an ability to present geographic concepts, approaches, methodologies, and applications in oral, written, and cartographic and other visual forms.

12. 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:

F.Y.B.Com – Environmental Studies -1

S.N	Syllabus	Objective	Outcome
1.	Unit-I (13 Lectures) Environment and Ecosystem 1.1 Environment: Meaning, definition, scope and its components 1.2 Concept of an ecosystem : definition, Characteristics, components and types, Functioning and structure; Food Chain and Food Web- Ecological Pyramids 1.3 Man and environment relationship 1.4 Importance and scope of Environmental Studies.	1) To study the meaning, nature, scope and components of environment. 2) To understand the characteristics, components and types, functioning and structure of ecosystem. 3) To know the relationship between man and environment. 4) To become sensitized about environmental studies.	Students will be able to 1) Acquire the knowledge about environmental systems. 2) Aware about dealing with environment. 3) Develop knowledge & understanding the importance of environment.
2.	Unit-II (13 Lectures) Natural Resources and Sustainable Development 2.1 Meaning and definitions ; Classification and types of resources, factors influencing resource; 2.2 Resource conservation- meaning and methods and non-conventional resources 2.3 problems associated with and management of water, forest and energy resources 2.4 resource utilization and sustainable development	1) To classify the resources and explain the factors affecting it. 2) To understand the concept of resource conservation and methods of it. 3) To create awareness about problems related	Students will be able to 1) Develop the knowledge of resources & its importance in human life. 2) Understand the threats for different resources & develop the measures for the resource conservation. 3) Aware the importance of sustainable development

		with water, forest and energy resources. 4) To gain knowledge of efficient resource utilization for without compromising the need of future generations.	
3.	Unit-III (13 Lectures) Populations and Emerging Issues of Development		
3.1	Population explosion in the world and in India and arising concerns	1) To create awareness about exceeded population growth and emerging issues in the World and in India.	Students will be able to 1) Acquire the causes, effects of population explosion in India & world.
3.2	Demographic Transition Theory	2) To learn the different stages of population change.	2) Develop the measures to control population explosion.
3.3	Pattern of population growth in the world and in India and associated problems	3) To give knowledge of which steps can we take to control the population growth.	3) Become sensitive about environmental issues are rising due to population growth
3.4	Measures taken to control population growth in India	4) To understand the relation between population of human and environment, human health and environment.	
3.5	Human population and environment	5) To become familiar with the HDI and World Happiness Index.	
3.6	Environment and Human Health		
3.7	Human Development Index		
3.8	The World Happiness Index		
4.	Unit – IV (13 Lectures) Urbanisation and Environment		
4.1	Concept of Urbanisation	1) To give information about the concept of urbanization.	Students will be able to 1) Study the process of urbanization & its effect.
4.2	Problems of migration and urban environment- changing landuse, crowding and stress on urban resources, degradation of air and water, loss of soil cover impact on biodiversity	2) To understand the effects of migration and urbanisation on environment.	2) Aware the effect of urbanization on environment.
4.3	Urban heat islands	3) To study the concept of Urban Heat Islands.	3) Increase an awareness of importance of living in a sustainable way with environment.
4.4	Emerging Smart Cities and safe cities in India - Sustainable Cities		

		4) To gain knowledge of smart, safe and sustainable cities in India.	
5.	Unit – V (8 Lectures)		
5.1	Reading of Thematic Maps and Map Filling	1) To acquire the skill of reading and interpreting the thematic maps of using various cartographic techniques.	Students will be able to 1) Develop the skill of map filling of world map.
5.2	Reading of Thematic Maps(4 Lectures) Located bars, Circles, Pie charts, Isopleth, Choropleth and Flow map, Pictograms - Only reading and interpretation. Map Filling: (4 Lectures)	2) To get knowledge how to show environmental features on World map.	2) Acquire the knowledge of interpretation of thematic maps.
5.3	Map filling of World (Environmentally significant features) using point, line and polygon segment. Concept and Calculation of Ecological Footprint		3) Develop the skill of map reading

S.N	Syllabus	Objective	Outcome
1.	Unit I: (12 Lectures)		
1.1	Interior of the Earth	1) To study the physical features of the earth.	Students will be able to 1) Develop the knowledge of structure of interior of the earth.
1.2	Definition & meaning of Geomorphology	2) To know the nature of the interior of the earth.	2) Understand the theories behind today's structure of oceans & continents
1.3	Composition and Structure of the Interior of the Earth	3) To understand the elements and substances are found on the earth.	
1.4	Rocks and Minerals	4) To study the theories related to formation of the continents and water bodies.	
1.5	Wegner's Continental Drift Theory		
	Theory of Plate Tectonics		
2.	Unit II: (12 Lectures)		
2.1	Endogenic Processes	1) To understand the crustal movements.	Students will be able to 1) Understand the endogenic process on the earth.
2.2	Movements of the Earth's Crust	2) To analyze the various endogenic movements with examples.	2) Develop the knowledge of earthquakes & volcanic eruption.
2.3	Diastrophic Movements: Folding and Faulting		3) Analyze the types, causes, effects, distribution of earthquake & volcanoes.
	Catastrophic Movements: Volcanoes and Earthquakes – Examples from the World and India		

3. 3.1 3.2	Unit III: (12 Lectures) Exogenic Processes– I Weathering, Erosion and Mass Wasting Fluvial and Glacial Landforms (Erosional and Depositional)	1) To understand the processes of weathering, erosion and mass wasting. 2) To learn the landforms formed due to erosional and depositional work of river and glacier.	Students will be able to 1) Understand the exogenic forces on the earth. 2) Acquire knowledge about formation of different relief features due to different exogenic agents especially fluvial & glacier.
4. 4.1 4.2 4.3	Unit IV: (12 Lectures) Exogenic Processes – II(Erosional and Depositional Landforms) Aeolian Landforms Coastal Landforms Karst Landforms	1) To understand the landforms formed due to erosional and depositional work of wind, sea waves and ground water.	Students will be able to 1) Students will be able to understand the different relief features due to erosional & depositional work of wind, sea waves & ground water.
5. 5.1 5.2 5.3	Unit V: (12 Lectures) Practicals Concept of Contours Calculation of gradient (with H.E. and V.I.) Drawing of sections to depict Contour Landforms - Intervisibility	1) To understand and prepare the contours and three dimensional representation. 2) To calculate the slope of the earth surface. 3) To identify the intervisibility between landforms.	Students will be able to 1) Acquire the skill of drawing contours & landforms. 2) Students will be able to calculate the gradient. 3) Understand the intervisibility. 4) Able to draw of section to depict contour landforms

S.N	Syllabus	Objective	Outcome
1. 1.1 1.2 1.3 1.4	Unit-I: (09 lectures) Introduction to Climatology Definition, nature, scope and branches of climatology Concept and elements of weather and climate Composition and structure of atmosphere Insolation: Vertical and horizontal distribution of temperature	1) To study the nature, scope and branches of climatology. 2) To differentiate between weather and climate. 3) To know about the composition and structure of atmosphere. 4) To understand the process of insolation and to discuss the distribution of	Students will be able to 1) Understand the concept of climatology, its nature, scope & branches. 2) Able to differentiate between weather & climate. 3) Understand the composition & structure of atmosphere. 4) Develop the knowledge of distribution of temperature.

		temperature according to elevation and latitudes.	
2. Unit-II: (09 lectures) Air Pressure and Atmospheric Circulation 2.1 Air pressure: Influencing factors – Tricellular model 2.2 Horizontal distribution of air pressure 2.3 Wind: Types of winds – global, regional and local 2.4 Upper air circulation – jet stream (concept, origin and effects)		1) To understand the movement of atmospheric circulation. 2) To discuss the factors influencing the air pressure, model based on it and the distribution. 3) To study the moving mass of air, its types. 4) To get knowledge about jet stream.	Students will be able to 1) Understand the concept of air pressure & factors influencing it. 2) Acquire the knowledge of distribution of air pressure. 3) Analyze the concept, process & effects of jet stream
3. Unit-III: (09 lectures) Humidity and Precipitation 3.1 Humidity: Types - absolute, relative and specific 3.2 Condensation and its forms 3.3 Precipitation and its types 3.4 Global distribution of rainfall		1) To aware about concepts related to amount of water and their types. 2) To understand the various forms of condensation and types of precipitation. 3) To know the distribution of rainfall in the world.	Students will be able to 1) Acquire the knowledge of humidity & its types. 2) Develop the understanding of condensation, precipitation process & its forms. 3) Gain the knowledge of global distribution of rainfall.
4. Unit-IV: (09 lectures) Climate and Weather Phenomena 4.1 Cyclones: tropical and temperate 4.2 Anti-cyclones and tornados 4.3 El Nino and Indian monsoon 4.4 Global warming and climate change		1) To understand and differentiate between origin, formation, characteristics of various cyclones and anti-cyclones. 2) To discuss the life cycle, features, types of tornadoes. 3) To analyze the effect of El Nino on Indian monsoon. 4) To create awareness about	Students will be able to 1) Analyze the concept of cyclones & anti-cyclones. 2) Understand the effect of El Nino on Indian monsoon. 3) Sensitize about global warming & climate change.

		Global warming and climate change	
5.	Unit-V: (09 lectures) Practical Component		
5.1	IMD: Weather signs and symbols, Interpretation of IMD weather maps	1) To acquire the skill of reading meteorological maps.	Students will be able to 1) Acquire skill of reading and interpretation of the weather maps.
5.2	Construction of :wind rose, climograph and hythergraph	2) To develop the skill of construction of graphs based on climatic data.	2) Students will be able to construct the wind rose, climograph & hythergraph.

S.N	Syllabus	Objective	Outcome
	Unit-I: 09 (lectures) 1. Introduction of India		
1.1	India: Location , extent and significance	1) To know about geographical location and extension of India.	Students will be able to 1) Understand the physical structure of India.
1.2	India: Major physiographic divisions and their formation	2) To study the physiographic divisions of India in detail.	2) Study in detail about the different physical divisions of India.
1.3	Mountainous region of India		
1.4	North Indian plains		
1.5	Peninsular plateau of India		
1.6	Coastal plains and islands of India		
	Unit-II: 09 (lectures) 2. Drainage and Climate		
2.1	Drainage System in India (Himalayan and Peninsular drainage system)	1) To acquire the knowledge of different rivers and lakes in India.	Students will be able to 1) Analyze the drainage system of India.
2.2	Major Himalayan rivers of India	2) To learn the different seasons in India.	2) Develop the knowledge of Himalayan & Peninsular rivers.
2.3	Major Peninsular Rivers of India	3) To know the distribution of rainfall in India.	3) Gain knowledge about lakes & seasons of India.
2.4	Major lakes of India		4) Study the distribution of rainfall in India.
2.5	Seasons in India		
2.6	Distribution of rainfall in India		
	Unit-III: 09 (lectures) 3. Soils and Natural Vegetation		
3.1	Classification of soils of India	1) To classify the soils and forests in India.	Students will be able to 1) Develop the knowledge of classification of soil and forest of India.
3.2	Problems associated with soils and its remedies in India	2) To highlight the importance, problems and measures of soils and forests.	2) Aware of problems of soils & forests.
3.3	Classification of Forest in India		3) Study the importance of forests.
3.4	Importance of Forest in Indian context		4) Suggest the remedies for the problems of soil & forests.
3.5	Deforestation and measures of forests conservation in India		

4.	Unit-IV: 09 (lectures) Mineral and Power Resources	1) To know the distribution of minerals and power resources in India. 2) To understand and suggest the degradation and methods for conservation of resources.	Students will be able to 1) Acquire the knowledge of distribution of minerals & power resources in India. 2) Create awareness of depletion & conservation of minerals & power resources.
4.1	Distribution of Metallic Minerals in India: Iron ore, manganese, bauxite, copper and other important minerals		
4.2	Distribution of Non-Metallic Minerals in India: Mica, limestone, gypsum, clay and other important minerals		
4.3	Distribution of Power Resources : Coal, mineral oil and natural gas, thorium and uranium		
4.4	Depletion and conservation of minerals and power resources in India		
5.	Unit- V: 09 (lectures) Practical Component	1) To acquire the skill of depicting the physiographic features on the map of India. 2) To understand and develop the different types of scale.	Students will be able to 1) Acquire the skill of map filling in the map of India. 2) Able to convert & draw the scale.
5.1	Map filling: Showing geographical features in the Map of India (Related to physiography)		
5.2	Map Scale – Types, Conversion and drawing		

S.N	Syllabus	Objective	Outcome
1.	UNIT –I (13Lectures) Solid Waste Management for Sustainable Society:	1) To understand the concept of Solid Waste in detail. 2) To classify the solid waste and to know its sources. 3) To analyze the environmental impacts of solid Waste. 4) To explain the environmental management with special reference of MCGM 5) Aware with individual responsibility for Waste Management	Students will able to: 1) Understand the concept, types and sources of Solid Waste. 2) Aware about the environmental impacts of solid waste. 3) Develop knowledge & understanding of the Solid Waste Management and also how it's done by MCGM. 4) Sensitize about individual responsibility for Waste Management in rural and urban areas.
1.1	Classification of Solid Waste- Types and Sources of Solid Waste		
1.2	Effects of Solid Waste Pollution- Health Hazard, Environmental Impacts		
1.3	Solid Waste Management- (in Mumbai)		
1.4	Schemes and Initiatives run by MCGM		
1.5	Role of Citizens in Waste Management in Urban and Rural Areas.		
1.6			
2.	UNIT –II(13Lectures) Agriculture and Industrial Development:	1) To understand the problems associated with	Students will able to: 1) Understand the problems associated
2.1	Environmental Problems associated with Agriculture: Loss of		

2.2	Productivity, Land Degradation, Desertification	agriculture and industries.	with agriculture and industries.
2.3	Uneven Food Production- Hunger, Malnutrition and Food Security	2) To give knowledge of sustainable agricultural and industrial practices.	2) Acquire the knowledge about how to do agricultural and industrial activities in a sustainable way.
2.4	Sustainable Agricultural Practices		
2.5	Environmental Problems associated with Industries- Pollution, Global Warming, Ozone Layer Depletion, Acid Rain		
2.6	Sustainable Industrial Practices- Green Business and Green Consumption		
2.6	Corporate Responsibility toward Environment		
3.	UNIT –III(13Lectures) Tourism and Environment	1) To explain the concept of tourism thoroughly	Students will able to: 1) Develop the detail knowledge of tourism.
3.1	Tourism: Meaning, Nature, Scope and importance	2) To understand the challenges and policies of tourism in India.	2) Classify the types of tourism.
3.2	Typology of tourism- classification	3) To analyze the effects of tourism.	3) Understand the challenges and policies of tourism in India.
3.3	Tourism potentials in India and challenges before India	4) To define and elaborate the concept of Ecotourism.	4) Aware about effects of tourism on human and nature.
3.4	New Tourism Policy of India		5) Take essential efforts towards Ecotourism.
3.5	Consequences of tourism : Positive and Negative Impacts on Economy, Culture and environment-		
3.6	Ecotourism		
4.	UNIT –IV (13Lectures) Environmental Movements and Management	1) To know about environmental movements held in India.	Students will able to: 1) Understand and become sensitive towards environment.
4.1	Environmental movements in India: Save Narmada Movement, Chipko Movement, Appiko Movement, Save Western Ghat and Save Jaitapur	2) To understand the concepts of Environmental Management, ISO 14000 & 16000, Carbon Bank and Carbon Credit, Environmental Impact Assessment.	2) Develop the ideas regarding ISO, EIA and Environmental Protection Acts
4.2	Environmental Management: Concept, need and relevance	3) To get knowledge of Geospatial Technology.	3) Aware about application of GST Techniques
4.3	Concept of ISO 14000 and 16000		
4.4	Concept of Carbon Bank and Carbon Credit.		
4.5	EIA		
4.6	Environment Protection Acts		
4.7	Concept and components of Geospatial Technology- Applications of GST in Environmental Management		
5.	UNIT –IV (08 Lectures) Map Filling	1) To learn the skill of map filling of Mumbai and Konkan	Students will able to: 1) Develop the skill of map filling of Mumbai and Konkan.
5.1	Map filling of Konkan and Mumbai (Environmentally significant features and GST centers) using point, line and polygon segment.	2) To understand and calculate EPI	2) Acquire the knowledge of interpretation of thematic maps.
5.2	Concept and Calculation of Environmental Performance Index (EPI)		3) Develop the skill of how to measure EPI.

S.N	Syllabus	Objective	Outcome
1.	Unit I: (12 Lectures) Introduction to Human Geography 1.1 Meaning, Nature and Scope of Human Geography 1.2 Branches of Human Geography 1.3 Different approaches to Human Geography 1.4 Man-Environment relationship: Determinism, Possibilism, Probabilism	1) To study the Human Geography in detail. 2) To discuss the views of Human Geography. 3) To discuss the relationship between and environment.	Students will be able to 1) Know the changing human and natural features in different levels. 2) Classify various branches of human geography. 3) Understand the relationship of man and environment.
2.	Unit II: (12 Lectures) Settlements Concept of Urban and Rural Settlements 2.1 Types & Patterns of Settlements 2.2 Site and Situation 2.3 Functional classification of Urban Settlements 2.4	1) To differentiate the rural and urban settlements. 2) To understand the various types and patterns of settlements. 3) To get knowledge about site and situation of settlements. 4) To classify the urban settlements.	Students will be able to 1) Built an idea about Urban and Rural settlements, and its relation with environment. 2) Analyze various types and patterns of settlements. 3) Understand better siting advantages need to be supported by better situation factors. 4) Know about classification and morphology of settlement.
3.	Unit III: (12 Lectures) Population 3.1 Trends and Patterns of World population change 3.2 Demographic Transition Model 3.3 Population Distribution: Factors and Patterns 3.4 Concept and Problems of Under-population, over-population and optimum population	1) To understand the change in population in the world. 2) To analyze the stages of population change in the world. 3) To discuss the factors affecting the distribution and patterns of population. 4) To elaborate the problems of low-population, high-population and optimum population.	Students will be able to 1) Understand patterns, processes and stages of population growth and its implications. 2) Built an idea about population distribution and study how problems arise from low, high and optimum population.

4.	Unit IV: (12 Lectures) Migration	1) To understand the concept of migration and classify its types. 2) To discuss the factors affecting and effects of migration with reference to recent trends. 3) To study the migration theories and models.	Students will be able to 1) Understand the movement of people from one place to another due to different reasons and it affects the origin and migrated areas. 2) Find out the recent patterns of migration towards different countries. 3) Analyze the theories for better understanding of the spatial movements.
4.1	Concept and Types of Migration		
4.2	Causes of Migration: Push and Pull Factors		
4.3	Consequences of Migration: Source and Destination Areas		
4.4	Recent Trends in International Migration		
4.5	Migration Theories: Lee's Theory of Migration & Reilly's Gravity Model		
5.	Unit V: (12 Lectures) Practicals	1) To understand the pattern of the settlement. 2) To prepare the graphical representation of population according to age-sex. 3) To acquire the skill of preparation of cartographic technique – flow map, to show the movement of elements from one location to another.	Students will be able to 1) Determine the pattern of distribution of settlement in a quantitative way. 2) Display and interpret graphically long-term trends of male and female ratio with different age group. 3) Prepare the diagram to show the movement of objects between different areas.
5.1	Nearest Neighbour Analysis		
5.2	Construction and Interpretation of Age-Sex Pyramids		
5.3	Construction and interpretation of Flow Diagrams		

S.N	Syllabus	Objective	Outcome
1.	Unit-I: (09 lectures) Nature of Oceanography	1) To understand the how Oceanography has emerged as a subject. 2) To study the meaning of oceanography and its nature and scope. 3) To understand the various branches	Students will be able to 1) Understand the development of Oceanography in different era. 2) Describe the Oceanography from Geological and Geographical aspects to Marine life as well as interaction between ocean and man.
1.1	Origin and Development of Oceanography		
1.2	Oceanography : meaning, definition, nature and scope		
1.3	Branches of oceanography: physical chemical and biological		
1.4	Major Oceans and its characteristic features		

		of Oceanography. 4) To know the characteristics of major oceans in the world.	3) Describe World's major oceans with specific features.
2. 2.1 2.2 2.3 2.4 2.5 2.6	Unit-II: (09 lectures) Bottom Relief and Ocean Water Ocean floor and its characteristics Composition of ocean water Factors affecting ocean water temperature Vertical and horizontal distribution of ocean temperature Factors affecting salinity of ocean water Vertical and horizontal distribution of oceanic salinity	1) To get knowledge about relief features, which are found at the ocean floor. 2) To know the main constituents of ocean water. 3) To discuss the various factors affecting temperature and salinity of ocean water. 4) To understand how the ocean water temperature and salinity changes with depth and latitudes.	Students will be able to 1) Understand geomorphic features of ocean floor. 2) Study of substances mixed in ocean water. 3) Analyze the variation of ocean water temperature and its difference from place to place. 4) Discuss the differences in salinity are a result of various factors and it has latitudinal and depth-wise differences.
3. 3.1 3.2 3.3 3.4 3.5	Unit-III: (09 lectures) Movements of Ocean Water Waves- Formation and types Tsunami and their effects on coast Concept and types of Tides Equilibrium theory of Tides Ocean Currents – types and their effects	1) To study the ocean movements. 2) To understand the occurrence of Tsunami and their effect. 3) To analyze the formation of tides and its related theory.	Students will be able to 1) Understand the various types of motions of water and influence on coast. 2) Study the formation of Tides. 3) Discuss the movement of water mass within the ocean, its influencing factor, types, distribution and effects.
4. 4.1 4.2 4.3 4.4 4.5	Unit-IV: (09 lectures) Man and Ocean El- Niño and La-Niña phenomenon Coral reefs and their importance Marine Ecosystem Marine pollution Oceans and global climate change	1) To study the process and impact of El-Nino and La-Nina. 2) To understand the favourable condition, significance and threaten for coral reefs 3) To analyze the concept of Marine	Students will be able to 1) Analyze the effects of interaction between ocean and atmosphere result in certain climatic phenomenon. 2) Understand the necessary condition, types, importance and threatening factors of coral reefs. 3) Get the knowledge

		Ecosystem, Pollution and World climate change.	about interaction between living and non-living components in ocean water and occurrence and effects of pollution in oceans. 4) Analyze impact of human interference on global climate change with reference to oceans.
5. 5.1 5.2	Unit-V: (09 lectures) Practical Component Map filling : Related to Oceanography Reading and Interpretation of navigation charts and bathymetric maps	1) To acquire the skill of Map filling of the World with reference to oceanic features. 2) To study the symbols, abbreviations and interpretation of Naval Charts and Bathymetric Maps.	Students will be able to 1) To show the Oceanic features on World map. 2) Read the graphical representation of the maritime area and coastal regions. 3) Understand the maps which have shown submerged terrain.

S.N	Syllabus	Objective	Outcome
1. 1.1 1.2 1.3 1.4 1.5	Unit-I: 09 (lectures) Introduction to Agricultural Geography Definition, nature and scope of agricultural geography Approaches: regional approach, systematic approach, commodity approach, recent approaches Importance of agriculture in Indian economy Factors influencing agriculture in India India a agro-product exporting country	1) To define the nature, scope, approaches and importance of Agricultural Geography. 2) To understand the factors affecting Agriculture. 3) To know the role of India in export of agro-products.	Students will be able to 1) Understand the Agricultural Geography is the study of spatial distribution & variation of crops, livestock and other agricultural activities which supports economy. 2) Recognize the influencing factors in India. 3) Discuss the role of agriculture in export of agro-products.
2. 2.1 2.2 2.3 2.4 2.5	Unit-II:09 (lectures) Introduction to Indian Agriculture Salient features of Indian agriculture Types of farming in India Major crops of India Agro-climatic regions of India Problems associated with Indian agriculture (Natural, Socio, Economic and Political)	1) To discuss the characteristics, types of agriculture and major crops in India. 2) To classify the agricultural zones of India. 3) To discuss the various problems of agriculture in India.	Students will be able to 1) Describe the characteristics, classification of agriculture. 2) Understand the major crop producing, required geographical conditions for it & the distribution in India. 3) Classify the areas of

			<p>agriculture depend upon geographical & climatic factors.</p> <p>4) Analyze the problems faced in Indian Agriculture.</p>
<p>3.</p> <p>3.1</p> <p>3.2</p> <p>3.3</p> <p>3.4</p> <p>3.5</p> <p>3.6</p>	<p>Unit-III: 09 (lectures)</p> <p>Green Revolution in India</p> <p>Introduction of Green Revolution in India</p> <p>Components of Green Revolution</p> <p>Positive impacts of Green Revolution</p> <p>Negative impacts of Green Revolution</p> <p>Need for sustainable agriculture in India</p> <p>Agriculture in drought prone region and watershed management</p>	<p>1) To discuss how the Green Revolution is path breaking innovation of agriculture.</p> <p>2) To know about the sustainable agricultural practices.</p> <p>3) To provide the comprehensive model of sustainable development in drought prone region.</p>	<p>Students will be able to</p> <p>1) Analyze the quantitative and qualitative effect of green revolution Indian Agriculture.</p> <p>2) Discuss the impact of Green Revolution.</p> <p>3) Balance the economic profitability with environmental health and social justice and equity.</p> <p>4) Gain the knowledge suitable agricultural practices for drought prone region and practices followed in watershed management</p>
<p>4.</p> <p>4.1</p> <p>4.2</p> <p>4.3</p> <p>4.4</p> <p>4.5</p> <p>4.6</p>	<p>Unit-IV: 09 (lectures)</p> <p>Recent Trends in Agriculture</p> <p>White revolution and livestock resources</p> <p>Genetic engineering, tissue culture and horticulture</p> <p>Poly house agriculture</p> <p>Agro processing in India</p> <p>Agro-tourism</p> <p>Agro forestry</p>	<p>1) To develop the awareness of Supplementary income sources in farmers.</p> <p>2) To discuss the agro-product processing in India.</p> <p>3) To explain the concept of Agro-Tourism and Agro-Forestry with reference to India.</p>	<p>Students will be able to</p> <p>1) Describe the increase in production of livestock and milk.</p> <p>2) Understand the plants and seeds are created by insertion and fragmentation of tissue from an animal and plant are transfer to an artificial environment to survive and function.</p> <p>3) Discuss the commercial cultivation of major fruits in India.</p> <p>4) Understand the idea of growing plants in environmentally controlled areas.</p> <p>5) Describe the process that food items go through right from till the time they reach the consumers plate.</p> <p>6) Gain the knowledge of tourism on farms and</p>

			forest is considered as a crop.
5.	Unit- V:	09 (lectures)	
5.1	Practical Component		
5.2	Interpretation/ question- answer on thematic maps related to agriculture of India (NATMO and other)	1. To develop the skill of reading and explaining the component have shown in Thematic Maps.	Students will be able to 1) Determine and explain the components are included on the Thematic maps.
	Drawing of Statistical Diagrams and Graphs: Simple line graphs, multiple line, simple bar, compound bar and band graph	2. To prepare the statistical and graphical representation agricultural components.	2) Prepare the presentation as a bird's –eye view of the Agro-statistical data.