PERIYAR UNIVERSITY

Periyar Palkalai Nagar

SALEM - 636011

DEGREE OF BACHELOR OF SCIENCE

(Choice Based Credit System)

Syllabus for

B.Sc., GEOGRAPHY

Semester Pattern

(For Candidates admitted in the Colleges affiliated to Periyar University from 2023-2024 onward)

LIST OF CONTENTS

B.Sc., GEOGRAPHY

Choice Based Credit System (CBCS)

Regulations

I. About the Programme

Periyar University offers for the affiliated colleges in B.Sc Geography programme, under Choice Based Credit System (CBCS). The CBCS enables the students to select choice of subjects as per her /his interest and requirement. Acquiring knowledge in the related discipline is advantageous to the students. The CBCS programme is framed in such a way that to impart more knowledge in the field of Geographical sciences.

II. Program Educational Objectives (PEOs)

PEO1: To demonstrate an understanding of the fundamental principles, concepts in theoretical and practical knowledge of the Geographical Science.

PEO2: An ability to recognize, evaluate, interpret, and understand issues and opportunities at the frontiers of geological domain.

PEO3: Ability to apply the basic knowledge of geology to real-life problems besides the use of computational and mathematical knowledge and tools.

PEO4: Work ethically and professionally alone and as part of a team, complying with applicable legislation and managing time and other resources efficiently and effectively and manage, execute their geological plans to meet desired goals realistic constraints.

PEO5: Communicate geological information concisely and accurately using written, visual, and verbal means appropriate to the situation.

III. Program Outcomes (POs)

PO1: Disciplinary Knowledge: Capable of demonstrating comprehensive knowledge and understanding of one or more disciplines that form a part of an undergraduate Programme of study.

PO2: Communication Skills: Ability to express thoughts and ideas effectively in writing and orally; Communicate with others using appropriate media; confidently share one's views and express herself/himself; demonstrate the ability to listen carefully, read and write analytically, and present complex information in a clear and concise manner to different groups.

PO3: Critical thinking: Capability to apply analytic thought to a body of knowledge; analyze and evaluate evidence, arguments, claims, beliefs on the basis of empirical evidence; identify relevant assumptions or implications; formulate coherent arguments; critically evaluate practices, policies and theories by following scientific approach to knowledge development.

PO4: Problem Solving: Capacity to extrapolate from what one has learned and apply their competencies to solve different kinds of non-familiar problems, rather than replicate curriculum content knowledge; and apply one's learning to real life situations.

PO5: Analytical Reasoning: Ability to evaluate the reliability and relevance of evidence; identify logical flaws and holes in the arguments of others; analyze and synthesize data from a variety of sources; draw valid conclusions and support them with evidence and examples, and addressing opposing viewpoints.

PO6: Research-Related Skills: A sense of inquiry and capability for asking relevant/appropriate questions, problem arising, synthesizing and articulating; Ability to recognize cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyze, interpret and draw conclusions from data, establish hypotheses, predict cause-and-effect relationships; ability to plan, execute and report the results of an experiment or investigation.

PO7: Cooperation/Team work: Ability to work effectively and respectfully with diverse teams; facilitate cooperative or coordinated effort on the part of a group, and act together as a group or a team in the interests of a common cause and work efficiently as a member of a team**.**

PO8: Scientific Reasoning: Ability to analyze, interpret and draw conclusions from quantitative/qualitative data; and critically evaluate ideas, evidence and experiences from an open-minded and reasoned perspective.

PO9: Reflective Thinking: Critical sensibility to lived experiences, with self awareness and reflexivity of both self and society.

PO10: Information/Digital Literacy: Capability to use ICT in a variety of learning situations, demonstrate ability to access, evaluate, and use a variety of relevant information sources; and use appropriate software for analysis of data.

PO11: Self-Directed Learning: Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

PO12: Multicultural Competence: Possess knowledge of the values and beliefs of multiple cultures and a global perspective; and capability to effectively engage in a multicultural society and interact respectfully with diverse groups.

PO13: Moral and Ethical Awareness/Reasoning: Ability to embrace moral/ethical values in conducting one's life, formulate a position/argument about an ethical issue from multiple perspectives, and use ethical practices in all work. Capable of demonstrating the ability to identify ethical issues related to one's work, avoid unethical behaviour such as fabrication, falsification or misrepresentation of data or committing plagiarism, not adhering to intellectual property rights; appreciating environmental and sustainability issues; and adopting objective, unbiased and truthful actions in all aspects of work.

PO14: Leadership Readiness/Qualities: Capability for mapping out the tasks of a team or an organization, and setting direction, formulating an inspiring vision, building a team who can help achieve the vision, motivating and inspiring team members to engage with that vision, and using management skills to guide people to the right destination, in a smooth and efficient way.

PO15: Lifelong Learning: Ability to acquire knowledge and skills, including „learning how to learn", that are necessary for participating in learning activities throughout life, through self-paced and self-directed learning aimed at personal development, meeting economic, social and cultural objectives, and adapting to changing trades and demands of work place through knowledge/skill development/re skilling.

IV Program Specific Outcomes (PSOs)

PSO1: Disciplinary Knowledge: Understand the fundamental principles, concepts, and theories related to physics and computer science. Also, exhibit proficiency in performing experiments in the laboratory.

PSO2: Critical Thinking: Analyze complex problems, evaluate information, synthesize information, apply theoretical concepts to practical situations, identify assumptions and biases, make informed decisions and communicate effectively.

PSO3: Problem Solving: Employ theoretical concepts and critical reasoning ability with physical, mathematical and technical skills to solve problems, acquire data, analyze their physical significance and explore new design possibilities.

PSO4: Analytical & Scientific Reasoning: Apply scientific methods, collect and analyze data, test hypotheses, evaluate evidence, apply statistical techniques and use computational models.

PSO5: Research Related Skills: Formulate research questions, conduct literature reviews, design and execute research studies, communicate research findings and collaborate in research projects.

PSO6: Self-Directed & Lifelong Learning: Set learning goals, manage their own learning, reflect on their learning, adapt to new contexts, seek out new knowledge, collaborate with others and to continuously improve their skills and knowledge, through ongoing learning and professional development, and contribute to the growth and development of their field.

PO/PSO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6
PO1	✓					
PO2		✓				
PO3			✓			
PO4				✓		
PO5					✓	
PO6						✓

V. Eligibility for Admission

Candidates for admission to the first year of the Degree of Bachelor of Science, Geography course are required to have passed the Higher Secondary Examination (Academic/Vocational Stream) conducted by the Government of Tamil Nadu or an examination as equivalent to 10 +2 courses including CBSE, whichhave been recognized by the Periyar University.

For admission of students in the Government/Aided/ Unaided Colleges of Arts and Science, guidelines issued by the Director of Collegiate Education, Chennai– 6, may be followed.

VI. Duration of the Program

The course for the degree of B.Sc., Geography shall consist of three academic years divided into six semesters. Each Semester consists of 90 working days.

VII. Course of Study

The course of study shall comprise instruction in the following subjects according to the syllabusand books prescribed from time to time.

CURRICULUM FRAMEWORK
UNDER CHOICE BASED CREDIT SYSTEM (CBCS)

Part	Sub Code	Title of the Paper	Hrs (wk)	Internal (CA) Marks	External Marks	Total Marks	Ext– Min.	Total Pass Mark	Credits
		SEMESTER – 1							
I		**Part–I:**Language:Tamil I	6	25	75	100	30	40	3
II		**Part–II:** English I	6	25	75	100	30	40	3
III	**23UGGECT01**	**Core Course I:** Fundamentals of Geomorphology	5	25	75	100	30	40	5
III		Allied – Statistics - I	4	25	75	100	30	40	3
III	**23UGGECP01**	**Core Practical I:** Mapping Techniques	5	40	60	100	30	40	5
IV		**Skill Enhancement Course SEC - 1: (NME):** Basic Geography for Non Geographers	2	25	75	100	30	40	2
IV		**Skill Enhancement Course SEC: (Foundation Course):** Earth and its Systems	2	25	75	100	30	40	2
	Total		**30**						**23**
		SEMESTER – 2							
I		**Part–I:** Language: Tamil-II	6	25	75	100	30	40	3
II		**Part–II:** English- II	6	25	75	100	30	40	3
III	**23UGGECT02**	**Core Course II:** Climatology	5	25	75	100	30	40	5
III		Allied – Statistics - II	4	25	75	100	30	40	3
III	**23UGGECP02**	**Core Practical II:** Representation of Relief Features	5	40	60	100	30	40	5
III		**Skill Enhancement Course SEC - 2:** Bio Geography	2	25	75	100	30	40	2
IV		**Skill Enhancement Course SEC – 3:** (NME): Geography of India	2	25	75	100	30	40	2
	Total		**30**						**23**

		SEMESTER – 3							
I		**Part–I:**Language: Tamil III	6	25	75	100	30	40	3
II		**Part–II:** English III	6	25	75	100	30	40	3
III	**23UGGECT03**	**Core Course III:** Oceanography	5	25	75	100	30	40	5
III	**23UGGECP03**	**Core Practical III:** Representation of Socio Economic and Climatic Data	5	40	60	100	30	40	5
III		Allied – Botany - I	4	25	75	100	30	40	3
IV		**Skill Enhancement Course SEC - 4:** Basic Meteorological Project	1	25	75	100	30	40	1
IV		**Skill Enhancement Course SEC-5 :** (Entrepreneurial Skill)	2	25	75	100	30	40	2
IV		EVS	1	-	-	-	-	-	0
	Total		**30**						**22**
		SEMESTER – 4							
I		**Part–I:**Language: Tamil IV	6	25	75	100	30	40	3
II		**Part–II:** English IV	6	25	75	100	30	40	3
III	**23UGGECT04**	**Core Course IV:** Geography of India	5	25	75	100	30	40	5
III		**Skill Enhancement Course SEC - 6: :** Population and Settlement Geography	2	25	75	100	30	40	2
III	**23UGGECP04**	**Core Practical IV:** Surveying and Projections for Geography	5	40	60	100	30	40	5
III		Allied – Botany - II	3	25	75	100	30	40	3
III		**Skill Enhancement Course SEC – 7**: Cartography	2	40	60	100	30	40	2
IV		E.V.S	**1**	25	75	100	30	40	**2**
	Total		**30**						**25**
		SEMESTER – 5							
III	**23UGGECT05**	**Core Course V:**	5	25	75	100	30	40	4

		Geography of Tamil Nadu with Special Reference to Specific Region							
III	**23UGGECT06**	**Core Course VI:** Basics of GIS	5	25	75	100	30	40	4
III	**23UGGECT07**	**Core Course VII:** Human Geography	5	25	75	100	30	40	4
III	**23UGGEME05**	**Elective Course V:** World Regional Geography	4	25	75	100	30	40	3
III	**23UGGECT08**	**Core Course XIII:** Project with Viva- Voce	5	40	60	100	30	40	4
III	**23UGGEME06**	**Elective Course VI:** Economic Geography	4	25	75	100	30	40	3
IV		Value Education	2	25	75	100	30	40	2
IV		Internship / Industrial Visit / Field Visit	15 Days	25	75	100	30	40	2
	Total		**30**						**26**
		SEMESTER – 6							
III	**23UGGECT09**	**Core Course IX:** Remote Sensing and GNSS	6	25	75	100	30	40	4
III	**23UGGECP05**	**Core Practical V:** Cartographic Appreciation and Interpretation of Maps and Images	6	40	60	100	30	40	4
III	**23UGGECP06**	**Core Practical VI:** Remote Sensing Techniques in Geography	6	40	60	100	30	40	4
III	**23UGGEME07**	**Elective Course VII:** Geography of Tourism	5	25	75	100	30	40	3
III	**23UGGEME08**	**Elective Course VIII:** Disaster Management	5	25	75	100	30	40	3
IV		Professional Competency Skill	2	-	-	-	-	-	2
		Extension Activities	-	-	-	-	-	-	1
			30						21
		Total/Credits							**140**

COMPULSORYCOURSES

1. Value Education
2. Environmental Studies
3. Extension Activities (NSS, NCC, YRC, RRC, Green Club)

VIII. Question Paper Pattern

Time: 3h. Maximum marks: 75

Part –A (15 x 1 = 15) Answer all Questions
Each Unit Carry 3 Multiple Choice Question
Part – B (2 x 5 = 10) Answer Any 2 Questions (out of five)
One Question should be in Each Unit
Part –C (5 x 10 = 50) Answer all Questions (either or type)
One Question should be in Each Unit

IX. Distribution of Marks

	Internal	Exam	Total
Theory	25	75	100
Practical	40	60	100

Core Practical Marks 40 Further Divided as Follows:-

Submissions	-	10
Continuous Assessment in Practical Class	-	10
Attendance	-	10
Test	-	10
		40

Classification of Internal Assessment for Theory:

Test	-	15
Assignment	-	05
Attendance	-	05
Total		25

SEMESTER-I			
Core Course - CC I			
FUNDAMENTALS OF GEOMORPHOLOGY – 23UGGECT01			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand scope and content of Geomorphology; and explains the Rocks and types of rocks.		
CO2	To Explains the continental drift theory, classify Endogenic and Exogenic forces. Discuss the fold, fault and volcano types.		
CO3	To illustrate the factors affecting weathering and its types		
CO4	To compare and classify Glacier and its types and types of landforms		
CO5	To explain the work of wind waves		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Geomorphology – Meaning – Scope and Content (Structure of the earth) – Rocks and its types (Igneous, Metamorphic, and Sedimentary Rock).	12	CO1
II	Wegner's Continental Drift Theory – Earth movements (Endogenic and Exogenic) - Fold and its types – Fault and its types - Earthquake - Types of Volcanoes.	12	CO2
III	Weathering: Factors affecting Weathering - Types of Weathering Mass Wasting and its Types - Agents of Gradation –Work of Rivers- Erosion, Transportation and Deposition –Erosional Landforms and Depositional Landforms.	12	CO3
IV	Work of Glaciers– Types of Glaciers – Erosional and depositional Landforms - Underground Water – Water Table – Aquifer- Spring and its Types – Karst Landforms – Erosional and Depositional Landforms.	12	CO4
V	Work of Wind- Erosional and Depositional Landforms. Work of Waves- Erosional and Depositional Landforms of Sea Waves and Types of Coasts.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Recall** the meaning, Scope and Content **of Geomorphology. Summarize** the interior structure of the earth, differentiate the types of rocks their formation, and the Rock cycle, able to identify the formation and type of rocks		
II	**Relates** Wegner's Continental Drift Theory, and Earth movements (endogenetic and exogenetic) to the formation of mountain, plateau, plains and lakes with its types		
III	**Differentiates** the weathering process and mass wasting and their types, **identifies** Work of Rivers.		
IV	**Understands** and **appreciates** the formation of various landforms by Glacier, Underground Water, Aquifer and Karst Topography.		
V	**Understands** and **appreciates** the formation of various landforms formed by wind and waves		
VI	Assessment Unit		
Text Book:			
1	Savindra Singh (2012) :Physical Geography		
2	Siddhartha.K&Mukherjee.R (2008): The Earth's Dynamic Surface		
3	Majid Hussain (2004): Fundamentals of Physical Geography		
4	Richard .H.Bryant (2006): Physical geography made Simple		
5	Dayal P.A. (2001):Text book of Geomorphology		
Web Source:			
1	En.wikipedia.org/wiki/Geomorphology		
2	En.wikipedia.org/wiki/volcano		
3	http://www.geographynotes.com/articles/applied-geomorphology-meaning-two-main-lines-specific-applications-and-techniques/779		
4	En.wikipedia.org/wiki/Geomorphology		

Fundamentals of Geomorphology:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	2	1	2	2	1		1	1	1
CO2	3	2	1		1	1	2	1	1	1
CO3	3	2	2	2	2	1	2	1	1	1
CO4	3	2	2		1	1		1	1	1
CO5	3	2	2	2	2	1	2	1	1	1
Average	3	2	2	2	2	1	2	1	1	1
Total	**15**	**10**	**6**	**8**	**3**	**6**	**5**	**5**	**5**	**6**

SEMESTER-I			
Core Course – Practical – I			
MAPPING TECHNIQUES - 23UGGECP01			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the Components of Maps and Types of Maps.		
CO2	To illustrate and examine the Scales, Comparative and Diagonal Scales.		
CO3	Representation of the Direction on Maps.		
CO4	To elaborate on the need for Latitude and Longitude and Time Calculation.		
CO5	To know the Measurement of Distance on the Map and Enlargement and Reduction of Maps		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Map Components – Maps – Types of Maps – Uses of Maps.	12	CO1
II	Scales – Representative Fraction and Statement of the scale – Types of Scales – Plain Scales – Comparative Scale- Diagonal Scale.	12	CO2
III	Representation of Direction on Maps: Directions – True North, Grid, Magnetic North.	12	CO3
IV	Latitude and Longitude – International Dateline –Time Calculation.	12	CO4
V	Measurement of Distance (Thread–Divider–Rotometer) and Measurement of Area (Graphical and Strip Method) - Enlargement and Reduction of Maps.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Recalls**. Map components – Maps- Types of Map Scale		
II	Knew about the Statement of the scale- Types – how it is important to explore their knowledge Representative fraction and Statement of the scale- Types of scales – Plain scales. –Latitude and Longitude – International dateline – **Explain** the International Time Calculation.		
III	**Understanding** of facts Representation of direction on maps – Explain the Directions-True north, Grid, Magnetic north**.**		
IV	Understand the Construction of Latitude and Longitude and Time Calculation.		
V	Calculate the Measurement of distance (Thread- Divider-Rotometer) and Measurement of area (Graphical and strip method)-Enlargement and Reduction of maps.		
VI	Assessment Unit		
Text Book:			
1	Saha, Pijushkanti (2010): Advanced Practical Geography. Books and Allied pvt Ltd.		
2	Bagulia A.M (2006): Practical Geography, Anmol Pyblishers.		
3	Khan , M.D .Zulfequar Ahmed (1997) : Text book of Practical Geography. Concept Publishing Company , New Delhi.		
Web Source:			
1	http://www.worldatlas.com/aatlas/imageg.		
2	http://en.wikipedia.org/wiki/mapscale.		
3	http://en.wikipedia.org/wiki/internationaldateline		
4	http://en.wikipedia.org/wiki/mapscale.		

Mapping Techniques:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1			1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	1	1	2	2	1	1	1	1	1
CO4	3	2	2	1	2	1	1	1	1	1
CO5	3	2	2	1	2	1	1	1	1	1
Average	3	1	2	1	2	1	1	1	1	1
Total	**15**	**7**	**7**	**6**	**6**	**3**	**5**	**5**	**5**	**5**

SEMESTER-I			
Skill Enhancement Course SEC - 1 (NME)			
BASIC GEOGRAPHY FOR NON GEOGRAPHERS -			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To enrich the basic knowledge of the Earth, and its composition, enhance the knowledge of the structure of the atmosphere.		
CO2	To explore the different the zones of Ocean with varying water depths, acquire knowledge on the deposits of Ocean		
CO3	To illustrate the Natural regions of the world		
CO4	To elaborate the Evolution of humans and races		
CO5	To understand the distribution and patterns of Population		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Earth – Origin, Interior, Age, Size, Shape of the Earth- Rocks and its Types – Atmosphere: Composition and Structure of the Atmosphere.	12	CO1
II	Continental Shelf, Continental Slope, Continental Rise and Trenches – Bottom Relief of Ocean – Distribution of Salinity – Ocean Currents waves and Tides – Ocean Resources and Deposits	12	CO2
III	Natural Regions of the World- Equatorial, Tropical and Temperate Grasslands, Tropical and Temperate Deserts, Tundra Regions.	12	CO3
IV	Evolution of Humans – Determinism and Possibilism – Major Races of the World - Major Religions of the World – Major Languages of the World – Major Tribes of India.	12	CO4
V	Population Distribution – Density and Growth – Population Problems – Migration and its Types – Causes and Consequences.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Analyse the changes over the universe periodically, distinguish the earth rotation and revolution and its causes explain how day and night cause, **Recall** Climatic elements **explain** the composition and Structure of the Atmosphere.		
II	**Explains** distribution of Land and Sea **describes the structure and composition of** the Ocean floor the oceanic crust, Group Activity **makes a model o**f Ocean Bottom relief.		
III	**Develop** the in depth knowledge of natural resource and its importance. **classify** the resources and human intervention and development **Applying acquired knowledge** marking the region in the map		
IV	**Recall** the Nature and Scope of Human geography, compare with the other branch of Geography , **Understand** the significance of Human geography, **analyse** the Man and environment relationship**, examine** the population data		
V	**Understanding the** basic concepts and significance of population geography, scope of the study, its history and development in Geography. It **is important to explore student's knowledge in** world population distribution		
VI	Assessment Unit		
Text Book:			
1	Thornbury, W. D. (I960): Principles of Geomorphology, John Wiley and Sons, New York.		
2	Savindra Singh (2002): Physical Geography, PrayagPustakBhawan, Allahabad.		
3	D. S. Lal: Climatology. ShardaPustakBhawan		
4	D. S. Lal: Climatology. ShardaPustakBhawan ,11 , University road Allahabad- 211002 Edition 2003.		
Web Source:			
1	https://letstalkscience.ca/educational-resources/stem-in-context/processes-shape- landforms		
2	**https://www.universetoday.com/**		
3	**https://www.yourarticlelibrary.com/population/theories-of-population-malthus-theory-marxs-theory-and-theory-of-demographic-transition/31397**		

Basic Geography for Non-Geographers:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	2	1	2	2	1		1	1	1
CO2	3	2	1		1	1	2	1	1	1
CO3	3	2	2	2	2	1	2	1	1	1
CO4	3	2	2		1	1		1	1	1
CO5	3	2	2	2	2	1	2	1	1	1
Average	3	2	2	2	2	1	2	1	1	1
Total	**15**	**10**	**6**	**8**	**3**	**6**	**5**	**5**	**5**	**6**

SEMESTER-I			
Skill Enhancement Course SEC – 2 **(Foundation Course)**			
EARTH AND ITS SYSTEMS -			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the basic concept of Universe and its origin and the theories of Evolution : Nebula, Kant and Big Bang Theory		
CO2	To understand Earth and Universe- Solar systems , Milky way Galaxy and Black hole theory and Meteorites		
CO3	To explain the Earth Internal Structure the Core, Mantle, Crust and also the Earth's Magnetism		
CO4	To illustrate about the Earth's Size, Rotation and Revolution, causes for Seasons, Eclipses and Solstice		
CO5	To explain the latitude and longitude, Cardinal points, Greenwich Meridian and Indian Standard Time. To given an understanding on the Time calculation		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	The Universe and its Origin- Theories of Evolution: Nebula, Kant, and Big Bang Theory.	12	CO1
II	Earth and Universe - Solar System- Galaxy (Milky way) – Cosmobody – Black hole – Meteorites.	12	CO2
III	Earth's Internal Structure – Earth's Crust, Mantle, and Core – Discontinuity.	12	CO3
IV	Earth and its Size – Earth Rotation and Revolution – Inclination Causes – (Seasons Day and Night) – Summer and Winter Solstice – Eclipses.	12	CO4
V	Latitudes and Longitudes – Greenwich Meridian – Indian Standard Time – Time Calculation.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Understands the origin of various theories in geography over the period Identifying geographical proven theories on origin of the sun and assess the recent trend in geography.		
II	Understands the changes over the universe periodically, distinguish the earth rotation and revolution and its causes explain how day and night cause.		
III	Recalls and Understands the size and position of planets, summarise with importance of direction in Geographical location		
IV	Evaluate the size and position of planets, summarise with importance of direction in Geographical location**(Interactive session with questions)**		
V	Evaluate the logic behind the time calculation discuss the location of Greenwich and calculate the Indian standard time.		
VI	Assessment Unit		
Text Book:			
1	Savindra Singh (2012) : Physical Geography		
2	Hussain Majid (2007): Evolution of Geographical concepts		
3	K.Siddhartha and S.Mukherjee (2006) The Dynamics of Earth Surface		
4	Gochenleong(2001): Certificate Physical and Human Geography		
Web Source:			
1	**https://www.universetoday.com/**		
2	https://www.universetoday.com		
3	**https://geography.name/regionalism/**		
4	**https://www.rawatbooks.com/geography/**		

Earth and its System:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	2	1			2	1	1	1
CO2	3	1	2	1	1		1	1	1	1
CO3	3	2	2	1	1	1	1	1		1
CO4	3	2	1	1	1	1	1		1	1
CO5	3	2	1	2	1	1	1	1	1	
Average	**3**	**2**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**8**	**8**	**7**	**4**	**3**	**6**	**5**	**5**	**5**

SEMESTER-II			
Core Course – CC II			
CLIMATOLOGY– 23UGGECT02			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the basic concepts and scope of climate and differentiate the weather and climate and assess the composition of atmosphere.		
CO2	To classify the Atmospheric Pressure and Winds		
CO3	To illustrate the types of air masses and fronts		
CO4	To elaborate the Atmospheric Moisture and climatic regions		
CO5	To understand the basic concepts of Cyclone and its mechanism		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Scope and Content – Weather and Climate – Climatic Elements- Atmospheric Composition and Structure – Insolation and Temperature: Factors and Distribution, Heat Budget, Temperature Inversion.	12	CO1
II	Atmospheric Pressure and Winds: Planetary Winds, Forces affecting Winds, General Circulation of Air, Jet Streams.	12	CO2
III	Air Masses- Classification of Air Masses – Fronts - Classification of Fronts.	12	CO3
IV	Atmospheric Moisture: Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types.	12	CO4
V	Cyclones: Tropical Cyclones, Temperate Cyclones, Monsoon - Origin and Mechanism, El Nino – La Nina.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Recall** Climatic elements **explain** the composition and Structure of the Atmosphere **define** Insolation **examine** the Heat Balance **compares** Horizontal and Vertical Distribution of Temperature.		
II	**Defines** Atmospheric Pressure, C**ompares** Horizontal and Vertical Distribution of Pressure **draw** the major Pressure Belts D**ifferentiates** Planetary Winds, Periodic and Local Winds, Group Activity Make a Model on Major pressure Belts and Planetary winds.		
III	**Illustrate** the formation of Jet Streams **summarizes** the formation of Air Masses and Fronts.		
IV	**Defines and differentiate** Humidity (absolute humidity, Relative humidity) **explains** Fog and its Types **identifies** Clouds (High, Medium and Low) **narrates** Forms of precipitation and Types of Rainfall (Convectional, Orographic and Cyclonic) **discuss** and **debate** on Issues in Global Climate Changes**.**		
V	**Draw map for** Circulation of Ocean Currents and the distribution **Discuss and debate** on ElNino – LaNina.		
VI	Assessment Unit		
Text Book:			
1	Lal D.S (2006): Climatology, Chaitanya Publishing House, New Delhi.		
2	Roger. G. Barry & Richard J. Choley, (2002): Atmosphere, Weather and Climate, Seventh Edition, Methunen& co Ltd, New York.		
3	Gochenleong (2001): Certificate Physical and Human Geography, Oxford university press, New Delhi.		
4	Siddhartha. K , (2000): Atmosphere, Weather and Climate, Kisalaya publications Pvt Ltd Delhi.		
Web Source:			
1	en-wikipedia.org/win/physical-geography		
2	www.physical geography.net/about.html		
3	www.4shared.net/physical+geography.		
4	books.google.com>science>earth sciences>geography		

Climatology:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1	1	2	1	1	1
CO2	3	1	1	1	1	1	2	1	1	1
CO3	3	1	2	1	2	1	1	1	1	1
CO4	3	2	1	1	2	1	1	1	1	1
CO5	3	2	1	2	2	1	1	1	1	1
Average	**3**	**1**	**1**	**1**	**2**	**1**	**2**	**1**	**1**	**1**
Total	**15**	**7**	**6**	**6**	**8**	**5**	**7**	**5**	**5**	**5**

SEMESTER-II			
Core Course – Practical – II			
REPRESENTATION OF RELIEF FEATURES – 23UGGECP02			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To enhance the students in gaining knowledge of Representation of Relief on Maps.		
CO2	To get an idea of Contour Section Drawing.		
CO3	To enhances the knowledge on Profiles.		
CO4	To get an insight into Slope Analysis.		
CO5	To enrich the knowledge about the Hypsographic Curve.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Representation of Relief on Maps: Spot Heights, Bench Mark, and Contours - Interpolation of Contours.	12	CO1
II	Contour Section Drawing-Types of Slopes (Uniform, Concave and Convex)-Landforms (Conical Hill – Plateau – Ridge – Escarpment – V - Shaped Valley - U Shaped Valley - Waterfalls and Sand Dunes).	12	CO2
III	Serial Profile - Superimposed Profile - Projected Profile - Composite Profile - Longitudinal Profile.	12	CO3
IV	Wentworth Method - Smith Relative Relief Method.	12	CO4
V	Altimetric Frequency Curve - Hypsographic Curve.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Knew about the Representation of relief on maps, Spot heights, Bench mark and Interpolation of Contours.		
II	**Understands** the Contour section drawing-Types of slopes (Uniform, Concave and Convex)-(Hill Plateau-Ridge- Escarpment V-shaped Valley-Waterfalls and Sand dunes).		
III	Knew about the drawing the different types of Profiles.		
IV	Understand the Slope Analysis with reference to Wentworth Method.		
V	Get an idea of drawing the Hypsographic Curve.		
VI	Assessment Unit		
Text Book:			
1	Charlton, R. (2008): Fundamentals of Fluvial Geomorphology, Routledge, Oxon.		
2	Kondolf, G. M. and Piegay, H. (2003): Tools in Fluvial Geomorphology, Wiley, Chichester.		
3	Robert, A. (2003): River Processes - An Introduction to Fluvial Dynamics, Arnold, London		
4	Schumm, S. A. (1977): Fluvial Systems, Wiley, New York		
Web Source:			
1	agilemodeling.com/artifacts/physicalDataModel.htm		
2	https://en.wikipedia.org/wiki/Morphometrics		
3	https://www.wou.edu/las/physci/taylor/g322/drainage_anal.pdf		

Representation of Relief Features:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1			1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	1	1	2	2	1	1	1	1	1
CO4	3	2	2	1	2	1	1	1	1	1
CO5	3	2	2	1	2	1	1	1	1	1
Average	**3**	**1**	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**7**	**7**	**6**	**6**	**3**	**5**	**5**	**5**	**5**

SEMESTER-II			
Skill Enhancement Course SEC - 2			
BIO GEOGRAPHY –			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the content of Bio-Geography and components of biosphere.		
CO2	To identify elements and types of biodiversity		
CO3	To illustrate the different types of Biomes of India		
CO4	To understand the ecosystem balance and biosphere reserves		
CO5	To elucidate the association between biodiversity and sustainable development.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Bio Geography – Nature, Scope and Content – Branches of Biogeography, Evolution of Flora and Fauna with Geological Time Scale – Biosphere – Components of the Biosphere – Ecology and Environment.	12	CO1
II	Biodiversity – Meaning – Definition – Elements and Types of Biodiversity – Biodiversity: Hot Spots – Value and Importance of Biodiversity.	12	CO2
III	Biomes – Terrestrial Biomes, Freshwater Biomes, Marine biomes– Biosphere Reserves of India - Anthropogenic Biomes.	12	CO3
IV	Ecosystem Balance - Species Extinction (Nature of Extinction, Threatened, Species, Species Conservation, Gene Banks, and Botanical Gardens, Zoological Gardens and Captive Breeding Centres, Biosphere Reserves, National Parks and Wildlife Sanctuaries.	12	CO4
V	Bio Diversity and Sustainable Development -Global Environmental Policies – EIA, SDG - 17 Goals.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Define** Biogeography the content and scope of bio geography a**ppreciate** evolution of fauna and flora **Recall** components of biosphere -**explain**Structure, Functions, Units and Types of Ecosystems **Differentiate** ecosystem, ecology and environment Group activity based on this web reference		
II	**Lists** Factors influencing the distribution of flora and fauna-**compares**the factors and their influence on flora Physiographic factors (Topography, waterbodies, sunlight, salinity)-Climatic factors (Temperature, Rainfall, Wind, Humidity)- Edaphic factors (soil air, soil moisture, soil texture, soil Ph) – Bio factors (competition, predation, diseases, humans)		
III	**Define**Biogeographical Regions of Plants and Animals -**appreciates**Biogeographic realms of the world - Nearctic, Palearctic, Afrotropic, Indomalaya, Australasia, Neotropic, Oceania and Antarctic- **understands** WWF classification of Biomes-Terrestrial, freshwater and marine biomes-**compares**Biogeochemical cycles **Group Activity** -model making for biomes.		
IV	**Lists**Influence of Man on Environment –**defines and lists** the types of Ecological Succession**realizes** the impact of influence **analyze**Ecological change and Imbalances – (Pollution, soil degradation, deforestation, desertification, acid rain, ozone depletion)**Discuss** on Environmental Degradation and Environmental Management. **Activity** Debate		
V	**Analyzing and interpret** National and International Policies and programmer on Animal Conservation (Biosphere Programmer 1971, Environmental Education Conference EEC 1975, UNESCO, The Earth Summit – Rio-de Jineiro, 1992, UNESCO, Project Elephant, 1992, Project Tiger, Conservation of Rhinos in Assam, 1987) –**develop** India Wild life Protection Acts- Bio Diversity Bill.		
VI	Assessment Unit		
Text Book:			
1	S.P. Mishra and S,P. Pandey : Essential Environmental Studies; Ane Books Pvt. Ltd, 2010		

2	George Simonds Bougler (2009):The Science Teaching of Forestry
3	Savindrasingh (2008):Environmental Geography
4	Bhattacharyya N.N (2003): Bio Geography, Rajesh Publication New Delhi.
Web Source:	
1	www.botany.wisc.edu/
2	www.biogeography.com

Bio Geography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	2	1	1			1	1	1	1
CO2	3	2	1	1			1	1	1	1
CO3	3	2	1	2	2	1	1	1	1	1
CO4	3	2	2	2	2	1	1	1	1	1
CO5	3	2	2	2	1	1	1	2	1	1
Average	**3**	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**10**	**7**	**8**	**5**	**3**	**6**	**6**	**5**	**5**

SEMESTER – II			
Skill Enhancement Course SEC - 3 (NME)			
GEOGRAPHY OF INDIA –			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To elaborate on the Location and Physiography of India		
CO2	To understand the climate and soil distribution of India		
CO3	To illustrate the agricultural distribution of India and the need for geographical factors for crop production.		
CO4	To distinguish the metallic and non metallic minerals, and understand the distribution of Indian Industries.		
CO5	To elaborate the distribution of population and transport in India		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Location – Frontiers - Neighbouring Countries- Physiography - Himalayas, Western Ghats and the Eastern Ghats –Plateau - East Coastal Plain, West Coastal Plain and Islands - Rivers :Northern (Peninsular) and Southern (Non Peninsular).	12	CO1
II	Climate –Seasons, Monsoons, Rainfall Pattern and Distribution of Rainfall - Soil and its Types - Natural Vegetation.	12	CO2
III	Agriculture – Geographical Requirements of Crops – Rice - Wheat – Oilseeds – Sugarcane – Cotton - Jute - Tea – Coffee – Rubber - Fisheries- Irrigation – Types – Multipurpose Projects.	12	CO3
IV	Minerals - Iron – Manganese – Bauxite – Copper – Mica – Illuminate – Energy (Hydel, Thermal and Atomic) – Industries- Iron & Steel – Textiles – Paper — Shipbuilding - Major Industrial Regions of India.	12	CO4
V	Population – Distribution – Density and growth –Population Problems - Transport – Roadways – Railways – Water ways – Air ways – Ports and Harbors.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Recall** the geographic location and compare the neighbouring countries and compare its strategic importance, **classifying** the nature and extent of Himalayan rages, **identifying** the resource of various elevation, **compare the** northern perennial and southern non perennial rivers, assess the coastal stretch and its importance, estimate island resource Indian seas and oceans		
II	**Distinguish** the concept of climate and weather **, explain** the intensity of Indian Monsoon , **Evaluate** the amount and pattern of rainfall, analyse the tropical cyclones over Indian coasts,		
III	the agricultural regions, **classifying** the food crops and non food crops of India, **identifying** the cropping pattern and its distribution, **assess** the production based on rainfall **explain** the types of irrigation, **assess** the hydro electric power generation,		
IV	**classifying** the minerals- metallic and non metalic, **estimates** the hydel power generation Assess the thermal power and atomic power generation **, Analyse** the major industrial regions and its importance in economic growth		
V	Identifies the demography of India, estimate the amount and pattern of rainfall in India **, discuss the problems** of urbanization, **compare** the means of transport, **understand** the strategic importance of sea routes.		
VI	Assessment Unit		
Text Book:			
1	Khullar, D.R. (2014): India a Comprehensive Geography, Kalyani Publishers, Edition 03.		
2	Umesh Kumar (2012): Geography of India,Global Vision pub.		
3	Chandra Vijay Purty (2011) :Geography of India, ABD Publishers.		
4	Rupali Chatterjee (2010): Geography of India, Global Vision publishers		

Web Source:	
1	https://www.mapsofindia.com/geography
2	www.indianmirror.com/geography/geography.html

Geography of India:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1	1	2	1	1	1
CO2	3	1	1	1	1	1	2	1	1	1
CO3	3	1	2	1	2	1	1	1	1	1
CO4	3	2	1	1	2	1	1	1	1	1
CO5	3	2	1	2	2	1	1	1	1	1
Average	**3**	**1**	**1**	**1**	**2**	**1**	**2**	**1**	**1**	**1**
Total	**15**	**7**	**6**	**6**	**8**	**5**	**7**	**5**	**5**	**5**

SEMESTER-III			
Core Course – CC III			
OCEANOGRAPHY – 23UGGECT03			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the term Oceanography definition, description of Ocean and Seas, Extent, surface configuration of the Ocean floor. To acquire wide knowledge on Hypsometric curve, Continental Shelf, Continental Slope, Abyssal Plain and Deeps, Trenches		
CO2	To understand and illustrate on bottom relief of Pacific, Atlantic and Indian Ocean and Composition of sea water.		
CO3	To illustrate the distribution of Salinity and factors affecting temperature		
CO4	To describe the Circulation of Ocean Movements		
CO5	To explain the distribution of Ocean deposits and resources		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Oceanography: Definition, - Extent and Distribution – Surface Configuration of the Ocean floor, Hypsometric Curve – Continental Shelf – Continental Slope – Abyssal Plain – Deeps and Trenches.	12	CO1
II	Bottom Relief of the Pacific, Atlantic and Indian Oceans, Sea water – Composition of Sea water.	12	CO2
III	Ocean Temperature and Salinity: Distribution and Factors – Horizontal and Vertical - Factors Affecting Temperature and Salinity Distribution.	12	CO3
IV	Ocean Water Movement – Waves – Tides: Types - Ocean Currents: Types - Currents of Pacific, Atlantic and Indian Oceans.	12	CO4
V	Ocean Deposits: Types - Coral Reefs: Formation and types - Ocean Resources and Need for Conservation - National Institute of Ocean Technology (NIOT).	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Define** oceanography**, explains** distribution of Land and Sea **describes the structure**.		
II	**Understands composition of** the Ocean floor the oceanic crust, Group Activity **makes a model o**f Ocean Bottom relief		
III	**Describes** the composition of sea water **list out** the factors Governing sea Temperature , **illustrate the variation** in Temperature distribution (Horizontal and Vertical Distribution)		
IV	Distribution **distinguishes** the types of waves Waves – (Deep water waves – Long waves – Seismic sea waves – Tide waves – Transitional waves) **differentiate** Tides – (High tide and Low tide – Neap Tide – Spring tide) , **draw map for** Circulation of Ocean Currents and the distribution **Discuss and debate** on ElNino – LaNina		
V	Analyses the different Ocean Deposits and identifies the Types of Coral Reefs-Formation and types describes the need for Ocean resources and need for conservation		
VI	Assessment Unit		
Text Book:			
1	Savindra Singh, (2008), Oceanography, PrayagPushtak Bhawan, Allahabad.		
2	Siddartha. K., (2005). Oceanography – A brief Introduction, Kisalaya Publications Pvt. Ltd., New Delhi.		
3	Gupta, A and Kapoor A. N., (2001), Principles of Physical Geography, S.Chand& Company Ltd., New Delhi.		
4	Lal D.S., (1990) Oceanography, Chatianya Publishing House, Allahabad		
Web Source:			
1	books.google.com>science>earth sciences>geography		
2	**https://www.nios.ac.in/media/documents/316courseE/ch11.pdf**		

Oceanography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1	1	2	1	1	1
CO2	3	1	1	1	1	1	2	1	1	1
CO3	3	1	2	1	2	1	1	1	1	1
CO4	3	2	1	1	2	1	1	1	1	1
CO5	3	2	1	2	2	1	1	1	1	1
Average	**3**	**1**	**1**	**1**	**2**	**1**	**2**	**1**	**1**	**1**
Total	**15**	**7**	**6**	**6**	**8**	**5**	**7**	**5**	**5**	**5**

SEMESTER –III			
Core Course – Practical – III			
REPRESENTATION OF SOCIO ECONOMIC AND CLIMATIC DATA – 23UGGECP03			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the representation of Climatic Data		
CO2	To illustrate the Symbols used to interpret the Weather maps		
CO3	To differentiate the Socio-economic data using the different methods of Mapping techniques.		
CO4	To elaborate on the different methods and techniques of map representation		
CO5	To summarize diagrammatic representation of mapping techniques using computer		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Representation of Climatic Data- Climatic Graph – Taylor's Climograph – Hyther Graph – Ergo Graph – Simple Wind Rose Diagrams.	12	CO1
II	Weather Symbols – Synoptic Weather Chart - Interpretation of Indian Weather Report.	12	CO2
III	Representation of Socio-Economic Data- Distribution Maps – Dot Map – Mono- Circle-Square- Sphere- Block Pile - Simple Pyramid – Flow Diagram.	12	CO3
IV	Maps - Isopleth – Choropleth – Choro-schematic – Choro-chromatic.	12	CO4
V	Diagrammatic Representation using Computer: Bar Diagram (Vertical –Horizontal - Compound and Multiple) – Graphs(Simple and Poly Graph) - Pie - Pictorial - Star Diagram.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Define** the climatic data and its representation in geography. **List out** its importance climatic data in Geography, and to **explore their knowledge** to plot graphical **representation** from climatic and socio economic data for all types of climatic graphs, ergo and hyther graph		
II	**Understand the** Weather elements. **Outline** the Temperature. Distinguish the Pressure belts . **Illustrate** the significance of Wind. **Categories** the Humidity and **classify** the types of Rainfall.		
III	**Understanding** of facts and basic concepts of socio economic data to represent the proper distribution maps. **Develop** the skills to develop apt map for the given data.		
IV	**Understands** the Concept of socio economic data to choose apt map to depict. Index of concentration and dispersion diagram has different criteria.		
V	Locational **analysis and appreciate** the featured criteria elaborately		
VI	Assessment Unit		
Text Book:			
1	SahaPijushkanti (2010): Advanced Practical Geography, Books and Allied pvt Ltd.		
2	Bagulia A.M (2006):Practical Geography, Anmol Publishers.		
3	Zulfequar Ahmed Khan M.D (1997): Text book of Practical Geography, Concept Publishing Company , New Delhi.		
Web Source:			
1	**http://youtu.be/2hxUKRo1qQU**		
2	**https://youtu.be/gmTXQFxwuLE**		

Representation of Socio Economic and Climatic Data:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1	1	1	1	1	1
CO2	3	1	1	1	3	2	1	1	1	1
CO3	3	1	2	1	2	1	2	1	1	1
CO4	3	2	2	2	2	1	2	1	1	1
CO5	3	2	3	3	2	1	2	1	1	1
Average	**3**	**2**	**2**	**3**	**2**	**1**	**2**	**1**	**1**	**1**
Total	**15**	**7**	**9**	**8**	**10**	**6**	**8**	**5**	**5**	**5**

SEMESTER – IV			
Core Course – CC IV			
GEOGRAPHY OF INDIA – 23UGGECT04			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To elaborate on the Location and Physiography of India		
CO2	To understand the climate and soil distribution of India		
CO3	To illustrate the agricultural distribution of India and the need for geographical factors for crop production.		
CO4	To distinguish the metallic and non metallic minerals, and understand the distribution of Indian Industries.		
CO5	To elaborate the distribution of population and transport in India		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Location – Frontiers - Neighbouring Countries- Physiography - Himalayas, Western Ghats and the Eastern Ghats –Plateau - East Coastal Plain, West Coastal Plain and Islands - Rivers :Northern (Peninsular) and Southern (Non Peninsular).	12	CO1
II	Climate –Seasons, Monsoons, Rainfall Pattern and Distribution of Rainfall. Soil and its Types - Natural Vegetation- Tropical Forest, Sub Tropical Forest, Evergreen Forest, Mangrove, Thorny Forest.	12	CO2
III	Agriculture – Geographical Requirements of Crops – Rice - Wheat – Oilseeds – Sugarcane – Cotton - Jute - Tea – Coffee – Rubber - Livestock – Fisheries- Irrigation – Types – Multipurpose Projects.	12	CO3
IV	Minerals – Metallic and Non-Metallic Minerals - Iron – Manganese – Bauxite – Copper – Mica – Illuminate – Energy (Hydel, Thermal and Atomic) – Industries- Iron & Steel – Textiles – Paper — Shipbuilding – Locomotives – Cement – Fertilizer- Major Industrial Regions of India.	12	CO4
V	Population – Distribution – Density and growth –Population Problems - Transport – Roadways – Railways – Water ways – Air ways – Ports and Harbors.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Recall** the geographic location and compare the neighbouring countries and compare its strategic importance, **classifying** the nature and extent of Himalayan rages, **identifying** the resource of various elevation, **compare the** northern perennial and southern non perennial rivers, assess the coastal stretch and its importance, estimate island resource Indian seas and oceans		
II	**Distinguish** the concept of climate and weather **, explain** the intensity of Indian Monsoon , **Evaluate** the amount and pattern of rainfall, analyse the tropical cyclones over Indian coasts,		
III	the agricultural regions, **classifying** the food crops and non food crops of India, **identifying** the cropping pattern and its distribution, **assess** the production based on rainfall **explain** the types of irrigation, **assess** the hydro electric power generation,		
IV	**classifying** the minerals- metallic and non metalic, **estimates** the hydel power generation Assess the thermal power and atomic power generation **, Analyse** the major industrial regions and its importance in economic growth		
V	Identifies the demography of India, estimate the amount and pattern of rainfall in India **, discuss the problems** of urbanization, **compare** the means of transport, **understand** the strategic importance of sea routes.		
VI	Assessment Unit		
Text Book:			
1	Khullar, D.R. (2014): India a Comprehensive Geography, Kalyani Publishers, Edition 03.		
2	Umesh Kumar (2012): Geography of India,Global Vision pub.		

3	Chandra Vijay Purty (2011) :Geography of India, ABD Publishers.
4	Rupali Chatterjee (2010): Geography of India, Global Vision publishers
Web Source:	
1	https://www.mapsofindia.com/geography
2	www.indianmirror.com/geography/geography.html

Geography of India:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1	1	2	1	1	1
CO2	3	1	1	1	1	1	2	1	1	1
CO3	3	1	2	1	2	1	1	1	1	1
CO4	3	2	1	1	2	1	1	1	1	1
CO5	3	2	1	2	2	1	1	1	1	1
Average	**3**	**1**	**1**	**1**	**2**	**1**	**2**	**1**	**1**	**1**
Total	**15**	**7**	**6**	**6**	**8**	**5**	**7**	**5**	**5**	**5**

SEMESTER –IV			
Skill Enhancement Course - 6			
POPULATION AND SETTLEMENT GEOGRAPHY –			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To Enrich the knowledge on Scope and Significance of Population Geography		
CO2	To illustrate on the Components of Demography		
CO3	To elaborate on Rural and Urban Settlements		
CO4	To understand the Functional classification of towns and villages		
CO5	To acquire knowledge on Housing and House Types, Factors influencing house types.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Nature, Scope and Significance of Population Geography –Theories of Population Growth – Malthus theory.	12	CO1
II	Components of Demography: Fertility, Mortality, Sex ratio - World Trend of Population Growth - World Population Distribution - Density Patterns.	12	CO2
III	Rural and Urban Settlements: Site – Situation – Pattern – Forms and Functions Planned Settlement – Migration: Causes of Migration, Emigration versus Immigration.	12	CO3
IV	Functional Classification of Towns and Villages: Size of Village, Size and Distribution of Hamlets, Character of Villages and Village Sites; Functional Classification of Urban Centers.	12	CO4
V	Housing and House Types, Factors Influencing House Type – Relief, Climate, Socio-Economic factors - Building Materials for– Walls, Roofing -Types of Rural and Urban Houses in India.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Understanding the** basic concepts and significance of population geography, scope of the study, its history and development in Geography. It **is important to explore student's knowledge in** world population distribution-. the Theories of Population Growth – Malthus – Ricaedo Demographic Transition		
II	**Acquires the knowledge** optimum population, over and under population. **To develop** the skills to work on factors affect in population distribution and-density patterns		
III	Migration – Types – Determinants – Major consequences of Migration – **understanding** the major consequence of migration he Urbanization – CBD: Functions and characteristics -. **Understand** the urban Morphology: Rural–Urban Fringe. Hierarchy of urban centers - central place theory - Urban Problems - Slums - Urban Planning		
IV	Identifies the different functions of towns and villages, differentiates the structures of cities. Analyses the Functional structure of cities.		
V	Understands the different Housing and House Types, Factors influencing house type – Relief, Climate, Socio economic and other factors.		
VI	Assessment Unit		
Text Book:			
1	S.D.Maurya (2017) Population Geography ,Himalaya Publishing House, New Delhi.		
2	Siddhartha, K & Mukherjee. S. (2016). *Cities, Urbanisation and Urban Systems(Settlement Geography).* Kitabmahal Publishers.		
3	R.C.Chandana(2012) Geography of Population, Kalyani Publishing House, New Delhi.		
4	Mandal, R.B.(2001).*Introduction to Rural Settlements*. Concept Publishing House, NewDelhi.		
Web Source:			
1	https://www.e-education.psu.edu/geog597i_02/node/814		

Population and Settlement Geography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	2			2	1	1	1
CO2	3	1	1	3			2	1	1	1
CO3	3	2	2	3	3	2	2	1	1	1
CO4	3	2	2	3			3	1	1	1
CO5	3	3	3	3	3	2	3	1	1	1
Average	**3**	**2**	**2**	**3**	**1**	**2**	**3**	**1**	**1**	**1**
Total	**15**	**9**	**9**	**14**	**6**	**4**	**12**	**5**	**5**	**5**

SEMESTER - IV			
Core Course – Practical – IV			
SURVEYING AND PROJECTIONS FOR GEOGRAPHY - 23UGGECP04			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To acquire the knowledge of Conical Projection		
CO2	To get the knowledge of properties of cylindrical projection		
CO3	To get depth knowledge to construct international projection and Choice of Projection.		
CO4	To acquire the basic knowledge of survey techniques		
CO5	To get the knowledge of recent trends in Geographical Applications.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Map Projection - Construction – Properties and Utilities - Conical Projection – One Standard Projection - Two Standard Parallel Projection – Bonne's Projection and Polyconic Projection.	12	CO1
II	Construction of Cylindrical Projection - Equal area Projection – Equidistant Projection - Mercator's Projection.	12	CO2
III	Zenithal Projection (Polar case) Gnomonic, Stereographic – Mollweide – Sinusoidal- International Projection - Choice of Projection.	12	CO3
IV	Simple Plane Table Survey-Open and Closed Travers – Clinometer - Dumpy Level Methods of Surveying – Chain (Open and Closed) – Prismatic Compass (Open and Closed).	12	CO4
V	GPS, Survey By GPS - Geographical Applications such as Google Maps.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Understand the Importance and Uses of Various Projection.		
II	Knew about the Construction of different types of Cylindrical Projections.		
III	Hands on experience to draw the Zenithal, Mollweides and Sinusoidal Projection, and the to get clear idea about choice of projection.		
IV	Knew about the survey using Plane Table, Prismatic Compass, Clinometer and Dumpy level.		
V	Familiar with modern survey using GPS etc..,		
VI	Assessment Unit		

Surveying and Projections for Geography:

CO/PO/PSO	**PO**									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1		1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	2	2	2	2	1	1	1	1	1
CO4	3	2	2	2	2	1	1	1	1	1
CO5	3	2	2	2	2	1	1	1	1	1
Average	**3**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**8**	**8**	**8**	**7**	**3**	**5**	**5**	**5**	**5**

SEMESTER - IV			
Skill Enhancement Course SEC - 7			
CARTOGRAPHY -			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the development and history of Cartography, with the types of maps.		
CO2	To illustrate and examine the components of Maps		
CO3	To elaborate on the representation of mapping techniques		
CO4	To enrich the development of remote sensing in the cartography		
CO5	To summarize the recent technologies in digital Cartography		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Definition - History and Development of Cartography - Maps - Types of Maps based on Scale Purpose, Relief and Thematic Maps Qualitative and Quantitative Maps - Uses of Maps.	12	CO1
II	Components of a Maps - Scale - Direction - Projection- Conventional Signs and Symbols - Lettering, Symbolization.	12	CO2
III	Techniques of Map Representation - Isopleth - Interpolation of Contours - Mapping of Socio-Economic Data - Dot Maps Circle - Sphere- Square - Choropleth - Choroschematic - Chorochromatic Maps.	12	CO3
IV	Development of Remote Sensing - Aerial Photography - Satellite Imageries - Advantage of Digital Maps over Conventional Maps.	12	CO4
V	Recent Technologies in Cartography – CAD – GIS - ARC GIS - QGIS – GPS.	12	CO5
VI	Assessment Units		
UNIT	**Learning Outcomes**		
I	**Understanding** the basic concepts of cartography, scope of the study, its history and development in Geography. **Explore** the Purposes in creation of thematic maps, weather maps, special purpose maps and Topographic maps.		
II	**Appreciate** the goals of map design. Construct the elements of map design like scale and its types, direction, **understanding** True north, Grid, magnetic north, and legend.		
III	**Understanding** of facts and ideas of representation of physical data through contour diagram, making profiles and block diagrams to get idea of topographical structure**. Explains and explore** the Mapping of terrain (contouring, layer tinting, hill shading, Hachures)		
IV	**Understands** the role of cartography in the development of remote sensing techniques, learns to interpret aerial photograph, satellite imagery and differentiate the digital cartography and traditional cartography.		
V	Learns the recent technologies in Cartography		
VI	Assessment Unit		
Text Book:			
1	Judith A.Tyner (2010):Principles of Map Design, The Guilford press, New York , London.		
2	Misra,P. and A. Ramesh.(2006).*Fundamentals of Cartography.* McMillan Co. Publishing, New Delhi.		
3	Misra, R.P. and Ramesh A. (2002) :Fundamentals of Cartography, concept publishing company		
4	Robinson, H. (1995). *Elements of Cartography.* (6th Edition). John Wiley and Sons, New York		
5	Tyner,Judith.(1992).*Introduction to thematic Cartography.* Prentice Hall, New Jersey. Border, D. (1990).*Cartography : Thematic map design.* WCB WMC Brocan Pub		
Web Source:			
1	http://en.wikipedia.org/wiki/carography		
2	http://www.geography.wisc.edu/histcart		
3	http://www.map-symbol.com/sym_lib.htm.		

Cartography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1					1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	1	2	1	1	1	1	1	1	1
CO4	3	2	2	1	1	1	1	1	1	1
CO5	3	2	2	2	1	1	1	1	1	1
Average	**3**	**1**	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**7**	**7**	**5**	**3**	**3**	**5**	**5**	**5**	**5**

SEMESTER - V			
Core Course – CC V			
GEOGRAPHY OF TAMILNADU WITH SPECIAL REFERENCE TO SPECIFIC REGION - 23UGGECT05			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To enrich wide and depth knowledge of Political and Physiography of Tamil Nadu		
CO2	To elaborate the Soil profile, natural vegetation and the significant understanding regarding wild life and bird sanctuaries		
CO3	To elucidate the Distribution of Crops and the significance of livestock rearing and Fisheries		
CO4	To explore the knowledge of Minerals and Industries		
CO5	To distinguish the distribution of population and its problems		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Tamil Nadu: Location – Districts of Tamil Nadu - Physiography – Mountains, Plateaus, Plains - Climate – Seasons - South West and North East Monsoon - Distribution of Rainfall- Rivers of Tamil Nadu.	12	CO1
II	Soils – Types of Soil - Natural Vegetation- Forest and its types- Flora and Fauna -Wild life Sanctuaries - Bird Sanctuaries - Botanical Gardens.	12	CO2
III	Distribution of Crops: Food Crops - Paddy, Millets, Pulses, Oilseeds- Cash Crops (Sugarcane, Cotton) - Plantation Crops (Tea, Coffee, Rubber and Spices) – Livestock (Cattle, Sheep and Dairying) – Fisheries (Inland and Deep Sea Fishing).	12	CO3
IV	Distribution of Minerals and Industries-Metallic- Non-Metallic (Iron, Manganese, Bauxite, Copper, Mica, Illuminate and power resources**)** - Agro Based Industries-(Cotton, Sugar and Paper) – Cement – Automobile.	12	CO4
V	Population: Distribution – Density– Growth - Population Problems –Transportation - Roadways – Railways – Airports - Ports.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Knew about the Geographical Profile of the Tamil Nadu.		
II	Get an idea about the Soil, Natural Vegetation and Wildlife of Tamil Nadu.		
III	Understand the Cultivation and Distribution of Food and Plantation Crops in the State.		
IV	Knew about the Distribution of various of types of Mineral Resources.		
V	Knew about the Status of Population, Transport and Trade.		
VI	Assessment Unit		
Text Book:			
1	Statistical Hand Book (2015) :Published by Tamil Nadu Government.		
2	Geography of Tamil Nadu (2014) :Economic appraisal of Tamil Nadu		
3	Sakthi Venkata Kumuraswamy (2003) :Tamilnadupuviyiyal, Sakthi Abirami printers, kumbakonam.		
4	Negi, B.S. (1998) : Agricultural Geography, Kedarnath&Ramanath, New Delhi.		
Web Source:			
1	https://www.mapsofindia.com/geography		
2	www.indianmirror.com/geography/geography.html		
3	www.mheeducation.co.in		

Geography of Tamil Nadu with Special Reference to Specific Region:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	2	2	1	1	2	1	1	1
CO2	3	1	2	2	2	1	2	1	1	1
CO3	3	1	2	2	1	1	1	1	1	1
CO4	3	1	1	1	1	1	1	1	1	1
CO5	3	1	1	2	2	1	1	1	1	1
Average	**3**	**1**	**2**	**2**	**1**	**1**	**2**	**1**	**1**	**1**
Total	**15**	**5**	**8**	**9**	**7**	**5**	**7**	**5**	**5**	**5**

SEMESTER - V			
Core Course – **CC VI**			
BASICS OF GEOGRAPHICAL INFORMATION SYSTEM - 23UGGECT06			
Teaching Hours : 60			
UNIT	**Learning objectives**		
CO1	To acquire the knowledge on the development of GIS		
CO2	To distinguish between the significance of Spatial and non-spatial data		
CO3	To understand the importance of DBMS		
CO4	To update the recent trends on GIS analysis		
CO5	To explore the application of GIS and its softwares		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Geographical Information System: Definition –Historical Development - Components of GIS - Data Storage and Manipulation – Data Transformation – Data Output Devices.	12	CO1
II	Spatial and Non- Spatial Data, Raster and Vector Data Structure. Comparison of Raster and Vector Data - Geographical Coordinate Systems of Earth: UTM.	12	CO2
III	DBMS – Components - Query - Digitization – Editing – Topology – Layout Preparation.	12	CO3
IV	GIS Analysis: Single Layer Analysis: Buffer – Interpolation, Multilayer Analysis: Overlay Analysis, Network Analysis, WebGIS (A Basic Introduction).	12	CO4
V	Application of GIS and GIS Softwares; Land use/ Land cover/ Urban sprawl /Agriculture and environment. Disaster; Arc view, Arc GIS, ILWIS, GRASS, QGIS, ENVIS.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Knew about the Basics and Components of GIS.		
II	Understand the Difference between Vector and Raster Data and Coordinate System.		
III	Get the hands on experience of Digitizing, Editing and Data Base Management in GIS.		
IV	Trained in GIS analysis like Buffer, Interpolation etc..,		
V	Knew about the Various Softwares of GIS and its Applications.		
VI	Assessment Unit		
Text Book:			
1	Chandra A.M&Ghosh.S.K. (2016).*Remote Sensing and Geographic Information System*.Narosa Publishing House		
2	Bhatta,Basudeb(2011). *Remote sensing and GIS*, Oxford University Press/ Radha press NewDelhi		
3	Siddique,Dr. M.A.(2006).*Introduction to Geographic Information Systems*.ShardaPustakBhawan, Allahabad		
4	Anand,Dr. P.H. and V. Rajesh Kumar (2003). *Principles of Remote Sensing and GIS.* Sri Venkateswara Publications, Kumbakkonam.		
Web Source:			
1	www.gdmc.nl/oosterom/PoGISHyperlinked.pdf		
2	gisgeography.com › GIS Analysis		
3	www.gisresources.com		
4	www.researchgate.net		

Basics of Geographical Information System:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1				1	1	1	1
CO2	3	1	1	1	2		1	1	1	1
CO3	3	1	1	2		2	1	1	1	1
CO4	3	2	2	2	3	2	1	1	1	1
CO5	3	3	2	2		2	1	1	1	1
Average	**3**	**1**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**
Total	**15**	**8**	**7**	**7**	**5**	**6**	**5**	**5**	**5**	**5**

SEMESTER - V			
Core Course – **CC XII**			
HUMAN GEOGRAPHY– 23UGGECT07			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To understand the basic concepts of Human Geography and assess the relationship between Man and Environment.		
CO2	To elaborate the school of thoughts		
CO3	To discuss the distribution of Major Human Races in World		
CO4	To illustrate the World Major Religions		
CO5	To compare and distinguish the World Major Languages and Language groups		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Human Geography – Nature, Scope and Significance of Human Geography – Man and Environment Relationship.	12	CO1
II	Schools of Thoughts: Determinism, Neo Determinism, Possibilism and Behaviouralism.	12	CO2
III	Major Human Races in World – Classification of Major Races – Caucasoid - Mongoloid – Negroid – Racial Parameters and Indices.	12	CO3
IV	World Major Religions: Religion distribution – Hinduism - Buddhism – Jainism - Christianity- Islam- Religions in India.	12	CO4
V	World Major Languages and Language Groups – Tamil, Chinese, English – Hindi – Arabic – German – French and Portuguese.	12	CO5
VI	Assessment Unit		CO6
UNIT	**Learning Outcomes**		
I	**Recall** the Nature and Scope of Human geography, compare with the other branch of Geography , **Understand** the significance of Human geography, **analyze** the Man and environment relationship**, explain** the theories of population, **examine** the population data		
II	Understands the basis of the study of Geography through the elaborate understanding of the School of thoughts		
III	**Explain** the distribution of Major human races in the world, compare World Distribution of Races, **analyze** Racial parameters and indices(Shape, Skull, Face, Nose, Stature,, **examine** White (Caucasian), **Classifying** Asian (Mongoloid), outline the Black(Negroid Group discussion Classification of Races		
IV	**Recall** the Major Religions, explain Hinduism, Buddhism, Jainism, Christianity, Islam, **examine** the Religious distribution around the world, **compare** Languages, Vernacular and Dialectics.		
V	Estimate the distribution of Language groups (Chinese, Spanish, English, Hindi, Arabic German, French and Portuguese		
VI	Assessment Unit		
Text Book:			
1	Majid Hussain (2011) Human geography, Rawat publications, New Delhi		
2	Lekh raj singh (2009): Fundamentals of human geography, Sharda pustakbhawan,publishers		
3	Majid Hussain (2009): Concise geography, Tata mc graw hills education private limited, New Delhi.		
Web Source:			
1	http://jizaberg.tumblr.com/post/24880131860/download-researching-human-geography-pdf-ebook		
2	http://walkgeographies.files.wordpress.com/2009/03/gregoryetal_dictionary_human_geography_2009.pdf		

Human Geography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1			1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	1	1	2	2	1	1	1	1	1
CO4	3	2	2	1	2	1	1	1	1	1
CO5	3	2	2	1	2	1	1	1	1	1
Average	**3**	**1**	**2**	**1**	**2**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**7**	**7**	**6**	**6**	**3**	**5**	**5**	**5**	**5**

SEMESTER V			
Elective Course – **EC V**			
WORLD REGIONAL GEOGRAPHY - 23UGGEME05			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To have wide knowledge on the physical and political divisions of North America and South America		
CO2	To have broad regional knowledge of Africa and its Cultural Aspects		
CO3	To have depth regional knowledge of Australia and its Cultural Aspects		
CO4	To acquire regional knowledge of Physical and political features of Europe		
CO5	To acquire the regional knowledge of Asia and its Cultural Aspects		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	North America and South America: Political divisions– Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural Aspects.	12	CO1
II	Africa: Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects.	12	CO2
III	Australia: Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects.	12	CO3
IV	Europe : Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects.	12	CO4
V	Asia: Political divisions – Physical - Drainage – Soil – Agricultural – Natural Vegetation – Animal Life – Transport and trade Cultural aspects.	12	CO5
UNIT	**Learning Outcomes**		
I	Knew about the Physical and Cultural Characteristics of North and South America.		
II	Understand the Physiographic, Socio-Economic condition of Africa.		
III	Get an idea of Australian Continent.		
IV	Knew about the Geographical Conditions of Europe.		
V	Identify and knew about the Geographical Characteristics of Asia.		
I	Assessment Unit		
Text Book:			
1	Majid Hussain (2012): World geography, Rawat Publications, 4th Edition.		
2	Majid Hussain (2011): Concise Geography, Tata Mc Graw Hill Education Private limited, NewDelhi.		
3	Alka Gautam (2007) :World geography, first edition, Sharda pustakbhawan, Allahabad.		
4	Gochenleong(2001): Certificate Physical and Human Geography, Oxford university press, New Delhi.		
Web Source:			
1	World Regional Geography, Global pattern, local lives Third Edition,LydiaMihelic Publisherwww.whfreeman.com/catalog/pulsipher3e.		
2	*examrace.com/.../Geography/.../Regional_Geography/Geography_Na..*		

World Regional Geography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	2					1	1	1	1
CO2	3	1	2				1	1	1	1
CO3	3	2	2	2	2		1	1	1	1
CO4	3	2	3	1	2	2	1	1	1	1
CO5	3	2	2	2	2	2	1	1	1	1
Average	**3**	**2**	**2**	**1**	**2**	**2**	**1**	**1**	**1**	**1**
Total	**15**	**9**	**9**	**5**	**6**	**4**	**5**	**5**	**5**	**5**

SEMESTER - V			
Elective Course – EC VI			
ECONOMIC GEOGRAPHY – 23UGGEME06			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To recall the Scope and content of Economic Geography and observe the Resource classification		
CO2	To examine the factors of agriculture and to describe the distribution of Crops		
CO3	To differentiate and classify the Mineral Resources and distribution of Power Resources		
CO4	To Compare and distinguish the Industries and Industrial Regions		
CO5	To infer and integrate the transport and major importing and exporting trade		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Economic Geography – Definition – Scope and content- the significance of Economic Geography – Classification of Resources – Renewable and Non-Renewable Resources – Conservation of Resources.	12	CO1
II	Agriculture – Factors Affecting Agriculture – Major Food Crops – Distribution and Production of Rice, Wheat - Fiber Crops (Cotton and Jute)- Beverage Crops (Coffee, Tea, Cocoa) Spices.	12	CO2
III	Mineral Resources- Types of Minerals – Metallic Minerals, Non-Metallic Minerals - Iron Ore, Copper, Manganese, Aluminum, Mica, Gypsum, Limestone, Fuel resources Coal, Petroleum, Natural Gas- Power Resources – Hydel, Thermal, Atomic Power.	12	CO3
IV	Industries – Localization factors for Industries –Agro based – (Textile Industry, Cotton, Jute) - Mineral Based - (Iron and Steel, Engineering Industries) - Shipbuilding, Automobile - Chemicals Industries – Fertilizer Industry, Industrial region.	12	CO4
V	Transport – Types of Roadways (National Highways, State, District, Express Highway) - Railways (Broad Gauge, Narrow Gauge, Meter Gauge)- Waterways and Major Sea Routes.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	**Recall** the concepts of Economic Geography with its **definite** scope and content outline the significance of Economic Geography , Infer the importance of resources and its **Classification** in India and at global level. **Extend the explanation** of renewable and non- renewable resources. **Contrast** the Conventional and Non-conventional- Exhaustible and Inexhaustible resources		
II	Understands the Agricultural activities and Factors affecting Agriculture. **Define** the role of Agriculture in Developmental scenario. **Classify** the crops in to Food crops and non food crops. **Summarize** the Distribution and Production of Rice, Wheat, Sugarcane, Pulses Horticultural crops - Fibre crops (Cotton and Jute)- Beverage crops(coffee, tea, cocoa) spices.		
III	**Recall** the Mineral Resources and **classify** the Types of Minerals Categorize the Metallic Minerals, Non Metallic Minerals.- **list out** the Distribution of minerals Iron ore, copper, Manganese, aluminum, Mica, Gypsum, Limestone Coal, Petroleum , Natural gas Power resources. Hydel power, Thermal, Atomic power, Geothermal energy at national level		
IV	Industries, Localization. **Outline** the factors for Industries Agro based – (Textile Industry, Cotton, Jute) **– List out** the Mineral Based industries(Iron and Steel and Engineering Industries). **Compare** the Shipbuilding, Automobile- Chemicals Industries – Fertilizer Industry.		
V	**Recall** and relate the Transport and Trade: Transport . **Compare and Illustrate** the Types of Roadways (National Highways, State, District, Express Highway) and Railways (Broad Gauge, Narrow gauge, Meter Gauge). List out the Waterways and Major Sea Routes**. Elaborate** the Trade National and international. **Distinguish** the Trade blocs and Major importing and exporting countries of the world.		
VI	Assessment Unit		

Text Book:	
1	Sharma, Siya Ram (2008) :Economic Geography ,Murari Lal Publications.
2	Hussain, Ahmad (2006) : Economic Geography, Vishvabharthi Publications.
3	Singh.I (2006) :Economic Geography, Alfa publications.
Web Source:	
1	www.wikipedia.org/wiki/ Economic Geography
2	joeg.oxford journals.org/

Economic Geography:

CO/PO/PSO	**PO**									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1	1		1	1	1	1
CO2	3	1	1	1	1		1	1	1	1
CO3	3	2	2	1	2	1	2	1	1	1
CO4	3	2	2	2	2	1	1	1	1	1
CO5	3	2	2	2	2	1	2	1	1	1
Average	**3**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**8**	**8**	**7**	**8**	**3**	**7**	**5**	**5**	**5**

SEMESTER - VI			
Core Course – CC IX			
REMOTE SENSING AND GNSS - 23UGGECT09			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To have basic knowledge on basics of Remote sensing		
CO2	To elaborate on the fundamentals and significance of Aerial photographs and satellite types		
CO3	To have the deep knowledge on the types of resolution and marginal information of Aerial photos and satellite images		
CO4	To explore the application of Remote sensing		
CO5	To have wide understanding on GNSS, Segments and Satellite tracking		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Remote Sensing – Definition and Types- History of Remote Sensing in India – Remote Sensing Processes – Electromagnetic Spectrum, Atmospheric Window – Plat Forms and its types.	12	CO1
II	Fundamentals of Aerial and Satellite Remote Sensing- Aerial Photography and Scale of Aerial Photographs and its Types – Types of Satellites.	12	CO2
III	Resolution: Spectral, Spatial, Radiometric and Temporal- Marginal Information of Aerial Photographs and Satellite Images.	12	CO3
IV	Application of Remote Sensing; Land use/ Land cover/ Urban Sprawl Agriculture and Environment.	12	CO4
V	Global Navigation Satellite System: Segments: Space Segment - GPS Satellite Systems – New Programmes – IRNSS - Control Segment - Satellite tracking - User Segment – Modern Survey Instruments - DGPS - GNSS Applications.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Knew about the History and Elements of Remote Sensing.		
II	Knew about the use of Aerial Photos, Satellite Images.		
III	Differentiate between Various types of Resolution of Satellite Images.		
IV	Understand the Application of Remote Sensing in various fields.		
V	Knew about the uses of GNSS, IRNSS in GPS.		
VI	Assessment Unit		
Text Book:			
1	Siddique M.A.(2006): Introduction to Geographic Information Systems, Sharda Pustak Bhawan, Allahabad.		
2	Chandra A.M &S.M.Ghosh, (2006) Remote sensing and Geographical Information System, Alpha Science Int'l limited, New Delhi.		
3	Panda B.C(2005): Remote sensing principles and applications, Viva books private limited.		
4	Anji Reddy. M. (2001): Remote sensing and Geographical information system, BS publication, Hyderabad.		
Web Source:			
1	www.gdmc.nl/oosterom/PoGISHyperlinked.pdf		
2	RSgeography.com › RS Analysis		

Remote Sensing and GNSS:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1				1	1	1	1
CO2	3	1	1	1	2		1	1	1	1
CO3	3	1	1	2		2	1	1	1	1
CO4	3	2	2	2	3	2	1	1	1	1
CO5	3	3	2	2		2	1	1	1	1
Average	**3**	**1**	**2**	**2**	**2**	**2**	**1**	**1**	**1**	**1**
Total	**15**	**8**	**7**	**7**	**5**	**6**	**5**	**5**	**5**	**5**

SEMESTER -VI			
Core Course – Practical – V			
CARTOGRAPHIC APPRECIATION AND INTERPRETATION OF MAPS AND IMAGES - 23UGGECP05			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To acquire basic knowledge in Survey of India Toposheets		
CO2	To elaborate the appreciation of British Ordnance Survey Sheets		
CO3	To discuss the importance of US Geological Survey Maps		
CO4	To elaborate on Interpretation of SOI Toposheets.		
CO5	To illustrate the IRS-Satellite Images.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Cartographic Appreciation of Survey of India Toposheets – Detailed Interpretation of Survey of India Toposheets with Special Reference to Relief and Drainage – Transport and Settlement.	12	CO1
II	Cartographic Appreciation of British Ordnance Survey Sheets – Interpretation with Reference to Transport and Settlement.	12	CO2
III	Cartographic Appreciation of US Geological Survey Maps – Interpretation with Reference to Relief and Drainage.	12	CO3
IV	Detailed Interpretation of Aerial Photo.	12	CO4
V	Detailed Interpretation of IRS-Satellite Images.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Get an insight about Survey of India Toposheets		
II	Knew about the appreciation of British Ordnance Survey Sheets		
III	Knew about the obtaining the US Geological Survey Maps.		
IV	Hands on experience in Interpretation of Aerial Photos.		
V	Trained in Interpretation of IRS-Satellite Images.		
VI	Assessment Unit		
Text Book:			
1	Ian Heywood, Sarah Cornelivs and Steve Carver, An Introduction to Geographical Information System, Pearson Education Pvt .Ltd., New Delhi, 2007.		
2	Lillesand M. Thomas and Ralph W.Kiefer, Remote Sensing and Image Interpretation, John Wiley & Sons, New York, 2007.		
3	LO. C.P., and Albert K.W.Yeung, Concepts and Techniques of Geographic Information Systems, Prentice-Hall of India, New Delhi, 2006.		
4	Geographic Information Systems and Science. Second Edition. John Wiley, Chichester, 2005.		
Web Source:			
1	www.slideshare.net/parabprathamesh/primary-sec		
2	http://youtu.be/zxHP2Qhw5vl		
3	http://youtu.be/Se28XHI2_xE		

SEMESTER -VI			
Core Course – Practical – VI			
REMOTE SENSING TECHNIQUES IN GEOGRAPHY - 23UGGECP06			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To acquire basic knowledge in Remotely Sensed Data.		
CO2	To elaborate the Satellite Imagery Acquiring Methods.		
CO3	To discuss the importance of Aerial Photo Interpretation.		
CO4	To elaborate on Satellite Imagery Interpretation.		
CO5	To Compare Air Photo and Satellite Imagery with SOI Toposheet data.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	**Remotely Sensed Data Product – Aerial Photos:** Types, Scale of Photos – Marginal Information of Aerial Photos – Stereo Vision Tests.	12	CO1
II	**Satellite Imagery:** Data Acquiring Techniques – Marginal Information – Basic Elements of Image Interpretation – Interpreting Equipments: Viewing and Measuring Instruments.	12	CO2
III	**Aerial Photo Interpretation:** Tracing and Interpreting the Aerial Photographs.	12	CO3
IV	**Satellite Image Interpretation:** Tracing and Interpreting the Satellite Data.	12	CO4
V	**Comparative Study of Map Information:** 1) Air Photos with Topographic Maps 2) Air Photos with Satellite Images. 3) Satellite Images with Topographic maps.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Get an insight about Remotely Sensed Data.		
II	Knew about the Methods of Acquiring Satellite Imagery.		
III	Knew about the Interpretation of Aerial Photo.		
IV	Hands on experience in Satellite Imagery Interpretation.		
V	Knew about the Unique aspects of SOI Toposheet, Aerial Photo and Satellite Imagery.		
VI	Assessment Unit		
Text Book:			
1	Barrett, E.C. and Curtis, L.F. (1992). Introduction to Environmental Remote Sensing. Chapman and Hall Publications, London.		
2	Campbell, J.B. and Wynne, R.H. (1987). Introduction to Remote Sensing. The Guilford Press, New York.		
3	Lillesand, T.M. and Kiefer, R.W. (1987). Remote Sensing and Image Interpretation. John Willy and Sons, New York.		
4	Lueder, D.R. (1959). Aerial Photographic Interpretation – Principles and Applications. McGraw Hill Book Co., New York.		
5	Wolf, P.R. (1974). Elements of Photogrammetry: with Air Photo Interpretation and Remote Sensing. McGraw Hill Book Co., New York.		
Web Source:			
1	www.slideshare.net/parabprathamesh/primary-sec		
2	http://youtu.be/zxHP2Qhw5vl		
3	http://youtu.be/Se28XHI2_xE		

Remote Sensing Techniques in Geography:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1				1	1	1	1
CO2	3	1	1	1	2		1	1	1	1
CO3	3	1	1	2		2	1	1	1	1
CO4	3	2	2	2	3	2	1	1	1	1
CO5	3	3	2	2		2	1	1	1	1
Average	3	1	2	2	2	2	1	1	1	1
Total	**15**	**8**	**7**	**7**	**5**	**6**	**5**	**5**	**5**	**5**

SEMESTER –VI			
Elective Course - **EC VII**			
GEOGRAPHY OF TOURISM - 23UGGEME07			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To elaborate the Concept of Leisure and Tourism		
CO2	To discuss the history of tourism and discuss on the Determinants and Motivation of Tourism.		
CO3	To elaborate on Elements of Tourism		
CO4	To illustrate the Role of Transport in Tourism Development		
CO5	To discuss the importance of Tourist Organization of India		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Concept of Leisure and Tourism – Principles and Purpose – Types of Tourism – Significance of Tourism Development in Modern Society –Tourism Development in India.	12	CO1
II	History of Tourism – Ancient, Medieval and Modern Periods – Determinants and Motivation of Tourism	12	CO2
III	Elements of Tourism – Attraction, Accessibility and Amenities – Classification of Tourist Spots - Accommodation – Primary and Supplementary Accommodation– Hotels, Inns and Motels.	12	CO3
IV	Role of Transport in Tourism Development – Travel Formalities – Tour Itinerary– Travel Agency – Travel Restriction – Passport, Visa and Bank restriction - Traveler's Cheques – Credit and Debit cards – Tourism and Environment – Eco Tourism.	12	CO4
V	Tourist Organization – WTO – ITDC and Subsidiaries – Tourism Promotion –Advertisement – Tourism Planning and Development – Tourist Spots in India –Potential of Tourism in India – Problems of Tourism Development – Field Trip (for 5 or 7 days).	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Knew about the Significance and Development of Tourism in India.		
II	Get an idea about the Chronological Development of Tourism.		
III	Understand the Role of Amenities and Accessibility in Tourism.		
IV	Knew about the Importance of Transport, Travel Agencies and Documents in Tourism.		
V	Understand the Role of Various Organizations in Tourism Development.		
VI	Assessment Unit		
Text Book:			
1	A.K.Bhatia(2015), Sterling Publishers (P) Ltd. Sterling Publishers, New Delhi		
2	Girish, Revathy(2010): Tourism Product II, Wisdom Press, Daryagang, New Delhi		
3	R.E.Sinha 1996 'Tourism Strategies, Planning and Development', Common Wealth Publishers.		
Web source:			
1	https://en.wikipedia.org/wiki/Hospitality_management_studies		
2	study.com/directory/category/Business/Hospitality_Management.html		
3	http://www.wisegeek.org/		

Geography of Tourism:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1			1	1	1	1
CO2	3	1	1	1	2	1	1	1	1	1
CO3	3	1	1	1	2	1	1	1	1	1
CO4	3	2	2	1	1		1	1	1	1
CO5	3	2	2	2	2	1	1	1	1	1
Average	**3**	**1**	**1**	**1**	**2**	**1**	**1**	**1**	**1**	**1**
Total	**15**	**7**	**7**	**6**	**7**	**4**	**5**	**5**	**5**	**5**

SEMESTER – VI			
Elective Course - **EC VIII**			
DISASTER MANAGEMENT - 23UGGEME08			
Teaching Hours : 60			
UNIT	**Learning Objectives**		
CO1	To learn the Meaning of Disaster, its type, Hazard, Disaster Management.		
CO2	To understand the Causes, Effects and of the Earthquake, Volcanic Eruption, Landslides and Tsunami.		
CO3	To know about the Causes and Effects of Cyclones, Floods and Droughts.		
CO4	To understand the Causes and Effects of Fire Accidents, Explosions, Road Accidents and Stampede.		
CO5	To acquire knowledge of Disaster Management Agencies and Disaster Prone Regions of India.		
CO6	Assessment Unit		
UNIT	**DETAILS**	**NO. OF HOURS**	**COURSE OBJECTIVES**
I	Disaster and Hazards – Scope and Content – Disaster Management: Meaning and Cycle – Types of Hazards.	12	CO1
II	Earthquake – Volcanoes – Landslides – Tsunami: Causes and Effects and Management Aspects.	12	CO2
III	Cyclones – Floods – Droughts: Causes and Effects and Management Aspects.	12	CO3
IV	Terrorism – Fire Accidents – Explosions Road Accidents – Stampede – Causes – Effects and Management Aspects.	12	CO4
V	NDMA and SDMA Roles and Functions – Major Disaster Prone areas of India.	12	CO5
VI	Assessment Unit		
UNIT	**Learning Outcomes**		
I	Knew about the Nature of Disasters and Hazards.		
II	Knew about the Earthquakes, Volcanic Eruption and Landslides etc..,		
III	Understand the Causes and effects of Cyclones, Floods, and Droughts.		
IV	Acquired the knowledge of Fire Accidents, Explosions, Road Accidents and Stampede.		
V	Knew about the Role Agencies in Disaster Management.		
VI	Assessment Unit		
Text Book:			
1	Kapur, A. (2010). Vulnerable India: A Geographical Study of Disasters. SAGE India Pvt. Ltd., New Delhi.		
2	Vulnerability Atlas of India (1997). Building Materials & Technology Promotion Council, Ministry of Urban Development, Government of India, New Delhi.		
3	Singh, R.B. (2006). Natural Hazards and Disaster Management: Vulnerability and Mitigation (Edited Volume). Rawat Publications, New Delhi.		
4	Modh, S. (2010). Managing Natural Disaster: Hydrological, Marine and Geological Disasters. Macmillan, New Delhi.		

Disaster Management:

CO/PO/PSO	PO									
	1 Disciplinary Knowledge and Skill	**2 Skilled Communicators**	**3 Critical Thinkers and Problem Solver**	**4 Sense of Inquiry**	**5 Team Players/ Worker**	**6 Skilled Project Managers**	**7 Digitally Efficient**	**8 Ethical Awareness/ Reasoning**	**9 National and International Perspective**	**10 Life Long Learners**
CO1	3	1	1	1			1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	2	1	2	2	1	1	1	1	1
CO4	3	2	2	2	1	2	1	1	1	1
CO5	3	2	2	2	1	2	1	1	1	1
Average	**3**	**2**	**2**	**2**	**1**	**2**	**1**	**1**	**1**	**1**
Total	**15**	**8**	**7**	**8**	**5**	**5**	**5**	**5**	**5**	**5**

Model Question Paper

B.Sc. DEGREE EXAMINATION,

Third Semester

Geography

GEOMORPHOLOGY

Time : Three hours Maximum : 75 marks

PART A - (15 × 1 = 15 marks)

Answer ALL Questions.

1. The study of landforms found on the Earth's surface is called ——————
(a) Geology (b) Geomorphology (c) Geography (d) Physical geography

2. The name of our galaxy is _____
(a) Andromeda (b) Milky way (c) Ceres (d) Black eye

3. Kant's hypothesis is known as _____
(a) Tidal (b) Planetesimal (c) Gaseous (d) Nova

4. Moho discontinuity is found between the
(a) Crust and Mantle (b) Mantle and core (c) Upper Mantle and crust (d) Inner core and outer core

5. Weathering is an example of _____
(a) Endogeneic forces (b) Tensional force (c) Orogenic force (d) Exogeneic forces

6. Lignite is an example of _____ rock.
(a) Igneous (b) Sedimentary (c) Metamorphic (d) Volcanic

7. The main driving force of endogenic forces in _____
(a) Sun (b) Internal heat (c) Centrifugal (d) Centripetal

8. The process of exfoliation is a part of _____weathering.
(a) physical (b) chemical (c) biological (d) oxidation

9. What is the dominant force that cause mass movement?
(a) Tidal force (b) Seismic energy (c) Gravity (d) Wind

10. When the streams flow in different direction from a central peak or dome like structure, a _____ pattern is developed.
(a) Dendritic (b) Trellis (c) Rectangular (d) Radial

11. The deep and narrow river valley is called _____
(a) Canyon (b) Cliff (c) Pothole (d) Gorge

12. _____ is the landform from the coalescence of swallow holes in Karst topography.
(a) UValas (b) Moraines (c) Dolines (d) Polje

13. Mushroom rock is caused by _____ action.
(a) Wave (b) Wind (c) Glaciers (d) River

14. Bowl shaped depressions due to cutting of mountain walls by glaciers are called _____
(a) Horns (b) Cirques (c) Arete (d) Hanging valleys

15. Stack is related to _____ action.
(a) Wind (b) Wave (c) River (d) Glacier

PART B - (2 X 5 = 10 marks)
Answer Any TWO Questions.

16. Explain briefly about the scope of geomorphology.

17. Define folds. What are the different types of folds?

18. Write a short note on biological weathering.

19. Write briefly about the erosional work of running water/river.

20. Write briefly about the types of glaciers.

PART C - (5X10 = 50 marks)
Answer ALL Questions.

21. (a) Write in detail about the solar system.

(or)

(b) Write a note on Kant and Laplace hypothesis.

22. (a) Explain in detail about the Earth's internal structure with suitable illustrations.

(or)

(b) Define volcanoes. Explain briefly about the types of volcanoes based on eruptions.

23. (a) Write in detail about the chemical weathering with suitable examples.

(or)

(b) Write a detailed note on mass wasting.

24. (a) Give a detailed account on the landforms formed by erosion of running water.

(or)

(b) Write about the landforms formed by limestone.

25. (a) Describe in detail about the landforms associated with wind erosion.

(or)

(b) Write in detail about the landforms formed by the deposition of glaciers.