



**THIRUVALLUVAR UNIVERSITY**

**SERKKADU, VELLORE-632115**

**B.Sc. Geography**

**SEMESTER - II**

**SYLLABUS**

**FROM THE ACADEMIC YEAR**

**2023 - 2024**

S.No.	Part	Study Components		Ins. Hrs /week	Credit	Title of the Paper	Maximum Marks		
		Course Title					CIA	Uni. Exam	Total
<b>SEMESTER II</b>									
1.	I	Language	Paper-2	6	3	Tamil/Other Languages	25	75	100
2.	II	English	Paper-2	4	3	English	25	75	100
3.	II	NMSDC: Language Proficiency for Employability	Paper-1	2	2	Overview of English Communication	25	75	100
4.	III	Core Course –CC III	Paper-2	5	5	Climatology	25	75	100
5.	III	Core Course –CC IV	Paper -3	5	5	Cartography	25	75	100
6.	III	Elective II Generic/ Discipline Specific	Elective II	6	3	PracticalII– Statistical Application in Geography - II	25	75	100
7.	IV	Skill Enhancement Course SEC-2	Paper2	2	2	Recent Trends in Geography	25	75	100
8.	IV	Skill Enhancement Course SEC-3 (Discipline Specific)	Paper 1	2	2	Basic Geography for Non- Geographers	25	75	100
		<b>Sem. Total</b>		<b>32</b>	<b>25</b>		<b>200</b>	<b>600</b>	<b>800</b>

**FIRSTYEAR- SEMESTERII**

<b>COURSENAME:CCIII CLIMATOLOGY</b>										
<b>COURSE CODE</b>  23UG	<b>C</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>S</b>	<b>C</b>	<b>INST. HOURS</b>	<b>MARKS</b>		
	<b>COREIII</b>	<b>5</b>			<b>II</b>	<b>4</b>		<b>CIA</b>	<b>External</b>	<b>Total</b>
								<b>25</b>	<b>75</b>	<b>100</b>

<b>UNIT</b>	<b>LEARNING OBJECTIVES</b>		
<b>LO1</b>	Understandweatherandclimate,weatherelementsandtheir distribution.		
<b>LO2</b>	Understandairpressure,winds,generalcirculationofwinds.		
<b>LO3</b>	Toillustratetypesofair massesandfronts.		
<b>LO4</b>	Toelaborateatmosphericmoisture,watercycleandclimaticregions.		
<b>LO5</b>	Toexplainformationoftropicalandtemperatecyclones, ElninoandLanino		
<b>UNIT</b>	<b>CONTENTS</b>	<b>NO.OF HOURS</b>	
<b>I</b>	ScopeandContent–WeatherandClimate–ClimaticElements- AtmosphericCompositionandStructure–IsolationandTemperature: FactorsandDistribution,HeatBudget,TemperatureInversion.	12	
<b>II</b>	AtmosphericPressureandWinds:PlanetaryWinds,Forcesaffecting Winds,GeneralCirculationofAir, JetStreams.	12	
<b>III</b>	AirMasses-ClassificationofAirMasses-Fronts-Classificationof Fronts.	12	
<b>IV</b>	AtmosphericMoisture:Evaporation,Humidity,Condensation,Fogand Clouds, PrecipitationTypes,Stabilityand Instability;ClimaticRegions.	12	
<b>V</b>	Cyclones:TropicalCyclones,TemperateCyclones,Monsoon-Origin andMechanism, ElNino–LANina.	12	

<b>CO</b>	<b>COURSEOUTCOMES</b>	<b>Klevel</b>
<b>1</b>	<b>Define</b> Climatic and Elements <b>Identify</b> nature, scope and content climate. <b>Demonstrate</b> TheAtmosphericCompositionandStructure <b>Summarize</b> Factorsand Distribution, Heat Budget, Temperature Inversion. <b>Activity:</b> DistributionofClimatic <b>element (PO4,PO9)</b> <b>Courtesy:</b> <a href="http://www.climate.org">www.climate.org</a>	K1 K2 K3
<b>2</b>	AtmosphericPressureandWinds:PlanetaryWinds,ForcesaffectingWinds, General Circulation of Air, Jet Streams <b>Discuss</b> Pressureandwinds. <b>Explain</b> thePlanetaryWinds. <b>Classificationof air andJetStream.Explain thefactorsaffectingwinds.</b>	K1,K2 K3,K4 K6

	<b>Activity:GroupDiscussiononthedistributionpatternofpressureandwinds. PO1 PO2PO7</b> Courtesy: <a href="https://www.noaa.gov&gt;weather-an">https://www.noaa.gov&gt;weather-an</a> NationalOceanicand Atmosphericadmi.....	
3	<b>ExplainAirMasses,describethecausesAirMasses.Classification</b> offronts. <b>Activity:Group Discussion on thedistributionofairmassesand fronts.</b>	K1,K2 K3,K4
4	<b>AnalysetheAtomsphericMoisture,DistinguishFogandClouds –Discussthe types of Precipitation. List out</b> the Climatic Regions. <b>Activity:GroupDiscussionabouttheclimaticRegions.(PO5)</b> Courtesy: <a href="http://www.globalissues.com">www.globalissues.com</a>	K1,K2 K4,K5
5	<b>IdentifythetypesofCyclones–DiscusstheOriginandMechanism, ElNino –LA Nina.</b> Studentactivity:conductseminarontheResultsandConclusionoftheriskof cyclones.	K1 K2 K4 K5

#### TEXTBOOK:

1	LalD.S(2006):Climatology,ChaitanyaPublishingHouse,New Delhi.
2	Roger.G.Barry&RichardJ.Choley,(2002):Atmosphere,WeatherandClimate,Seventh Edition, Methunen& co Ltd, New York.
3	Gochenleong(2001):CertificatePhysicalandHumanGeography,Oxforduniversitypress,New Delhi.
4	Siddhartha.K,(2000):Atmosphere,WeatherandClimate,KisalayapublicationsPvtLtdDelhi.

#### REFERENCEBOOKS:

1	Ahrens,C. D.(2012).Meteorologytoday:anintroductiontoweather, climate,andthe environment.CengageLearning.
2	Collins,M.,An,S.I.,Cai,W.,Ganachaud,A.,Guilyardi,E.,Jin,F.F.,...&Wittenberg,A. (2010).Theimpact ofglobalwarming onthetropicalPacificOceanand ElNiño. Nature Geoscience, 3(6), 391-397.
3	ElizabethKolbert, (2006)FieldNotesfromACatastrophe:Man,NatureandClimate Change, BloomsburyPublishing Plc.

#### WEBSOURCE:

1	<a href="http://www.physicalgeography.net/about.html">www.physicalgeography.net/about.html</a>
2	<a href="http://www.4shared.net/physical+geography">www.4shared.net/physical+geography</a> .
3	<a href="http://books.google.com&gt;science&gt;earthsciences&gt;geography">books.google.com&gt;science&gt;earthsciences&gt;geography</a>
4	<a href="https://en.wikipedia.org/wiki/Tropical_cyclone">https://en.wikipedia.org/wiki/Tropical_cyclone</a>

#### MAPPINGWITHPROGRAMME OUTCOMES

CO/PO/PSO	PO									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10
CO1	3	1	1	1	1	1	1	1	1	1
CO2	3	1	1	2	2	1	1	1	1	1
CO3	3	2	1	1	2	1	1	1	1	1
CO4	3	2	1	1	2	1	1	1	1	1
CO5	3	2	1	2	1	1	2	1	1	1
<b>CO-PO_Total</b>	<b>15</b>	<b>8</b>	<b>5</b>	<b>7</b>	<b>8</b>	<b>5</b>	<b>6</b>	<b>5</b>	<b>5</b>	<b>5</b>
<b>Weightage</b>	3	2	1	1	2	1	1	1	1	1

S-STRONG-3,MEDIUM-2,LOW-1

**FIRSTYEAR-SEMESTER-II**

COURSENAME:CC IV CARTOGRAPHY										
COURSE CODE	PART3 CC IV	L	T	P	Sem	Credits	INST. HOURS	MARKS		
								CI A	Externa l	Total
<b>23UG</b>		<b>5</b>			<b>II</b>	<b>4</b>	<b>60</b>	<b>25</b>	<b>75</b>	<b>100</b>
UNIT	LEARNING OBJECTIVES									
<b>LO1</b>	RecalltheHistoryanddevelopmentofCartography.OutlinetheElementsofCartography									
<b>LO 2</b>	ClassifythetypesandComponentsof Maps									
<b>LO 3</b>	UnderstandtheCharacteristicsandPurposeof Maps									
<b>LO 4</b>	ElaboratetheDigitalCartographyandits significance									
<b>LO 5</b>	UnderstandtheimportanceofSoftware’sinCartography									
UNIT	CONTENTS								NO.OF HOURS	
<b>I</b>	Cartography–Definition–History&DevelopmentofCartography–Earthasa Cartographic Problem –Elements of Cartographic Communication								12	
<b>II</b>	Maps–TypesanditsComponents:Scales -Direction–Projection–Conventional Signs & Symbols - Lettering and Symbolization								12	
<b>III</b>	QuantitativeMapsandQualitativeMapsinGeography-Characteristicsand Purpose								12	
<b>IV</b>	DigitalCartographyandRemotesensing–Development&Significance- Aerial Photography and Satellite Imageries - Advantage of Digital Maps								12	
<b>V</b>	RecentTechnologiesinCartography–CAD-GIS-Arc GIS-QGIS– GNSS								12	

CO	COURSEOUTCOMES	Klevel
<b>CO1</b>	<b>Define</b> Cartography – <b>Recall</b> the History andDevelopment of Cartography . <b>Discuss</b> the Earth as aCartographic Problem. <b>List</b> out the Elements of Cartographic Communication <b>(PO1)</b> Courtesy <a href="https://geography.wisc.edu">https://geography.wisc.edu</a>	K1 K2 K3 K4
<b>CO2</b>	<b>Outline</b> theMaps. <b>Classify</b> thetypesanditsComponents, <b>Listout</b> theScales,Direction,and Projection. <b>Differentiate</b> Conventional Signs & Symbols. <b>Classify</b> theLettering and Symbolization <b>Activity</b> giventoapplyingacquiredknowledgeofcomponentsofmapsandsignificance of lettering, conventional signs and symbols.P02,P04	K1 K2 K3 K4

	<b>Courtesy:</b> <a href="https://blog.socialstudies.com/how-to-engage-students-in-map-construction">https://blog.socialstudies.com/how-to-engage-students-in-map-construction</a> <b>Courtesy</b> <a href="http://youtu.be/2U9RK33VWK4">http://youtu.be/2U9RK33VWK4</a>	
<b>CO3</b>	<b>Distinguish</b> Quantitative Maps and Qualitative Maps in Geography and <b>List out</b> the Characteristics and <b>Outline</b> the Purpose of Maps. Courtesy <a href="https://gis.depaul.edu">https://gis.depaul.edu</a> Students prepare PPT for Qualitative and Quantitative Maps (PO3, PO7)	K1 K2 K3
<b>CO4</b>	<b>Relate</b> the Digital Cartography and Remote sensing. <b>Recall</b> the Development & Significance. <b>Classify</b> the Aerial Photography and Satellite Imageries. <b>Discuss</b> the Advantage of Digital Maps Courtesy <a href="http://youtu.be/NiH-Y9KeCbE">http://youtu.be/NiH-Y9KeCbE</a> Group Activity: Students will compare the aerial photos and satellite images and write the interpretation ( <b>PO5, PO9</b> )	K1 K2 K3 K4 K5
<b>CO5</b>	<b>Recall and relate</b> Recent Technologies in Cartography – <b>Classify and Compile</b> the GIS software like CAD - GIS- Arc GIS-QGIS – GNSS Courtesy <a href="http://youtu.be/n83ZuJWpk_1">http://youtu.be/n83ZuJWpk_1</a> Courtesy <a href="http://youtu.be/SyvZq2V3SzY">http://youtu.be/SyvZq2V3SzY</a> Courtesy <a href="http://youtu.be/PZ7oUmD5DnU">http://youtu.be/PZ7oUmD5DnU</a> Courtesy: <a href="https://www.geoowl.com">https://www.geoowl.com</a> <b>Group Activity:</b> Students will prepare maps using the open source GIS software ( <b>PO5, PO10</b> )	K1 K2 K3 K5 K6

#### TEXTBOOK:

1	Monkhouse, F.J. and Wilkinson (1994): H.R. Maps and Diagram, Methuen & Co., London.
2	Arthur Howard Robinson (1995): Elements of cartography, 6 print, JWiley & sons
3	Misra, R.P. and Ramesh A. (2002): Fundamentals of Cartography, concept publishing company

#### REFERENCE BOOKS

1	Judith A. Tyner (2010): Principles of Map Design, The Guilford press, New York, London
2	Pijushkant Saha and Partha Basu (2010) Advanced Practical Geography, Books and Allied Private limited, Kolkata
3	Singh R. Land Rana P.B. Singh (2014): Elements of Practical Geography, Kalyani Publishers

#### WEB RESOURCES:

1	<a href="https://gacbe.ac.in/pdf/ematerial/18BGE34A-U1.pdf">https://gacbe.ac.in/pdf/ematerial/18BGE34A-U1.pdf</a>
2	<a href="http://www.igntu.ac.in/eContent/IGNTU-eContent-403493872964">http://www.igntu.ac.in/eContent/IGNTU-eContent-403493872964</a>
3	<a href="https://www.e-education.psu.edu/geog160/node/1882">https://www.e-education.psu.edu/geog160/node/1882</a>

	PO									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P10
CO1	3	1					1	1	1	1
CO2	3	1	1	1			1	1	1	1
CO3	3	1	2	1	2	1	1	1	1	1
CO4	3	2	2	1	1	1	1	1	1	1
CO5	3	2	2	2	2	1	2	1	1	1
TOTAL	15	7	7	5	5	3	6	5	5	5
Weightage	3	1	1	1	1	1	1	1	1	1

S-STRONG-3, MEDIUM-2, LOW-1

**FIRSTYEAR-SEMESTER-II**

<b>COURSENAME: STATISTICALAPPLICATIONS INGEOGRAPHY-II</b>										
<b>COURSE CODE</b>	<b>Category</b> <b>Part-3</b> <b>Elective</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>S</b>	<b>Credit</b>	<b>TOTAL HOURS</b>	<b>MARKS</b>		
								<b>CIA</b>	<b>External</b>	<b>Total</b>
<b>23UG</b>		<b>4</b>			<b>II</b>	<b>3</b>	<b>60</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>UNIT</b>	<b>LEARNING OBJECTIVES</b>									
<b>LO1</b>	To acquire the basic knowledge of data in geography.									
<b>LO 2</b>	To understand the need of basic scales of measurement of data									
<b>LO 3</b>	To get the knowledge of descriptive statistics.									
<b>LO 4</b>	To explore the basic knowledge of dispersion variance.									
<b>LO 5</b>	To acquire the knowledge of sampling and its types..									
<b>UNIT</b>	<b>CONTENTS</b>								<b>NO.OF HOURS</b>	
<b>I</b>	Use of data in geography: Spatial and attributed data, geographical data matrix, types and sources of data (Discrete and grouped, primary and secondary).								12	
<b>II</b>	Scales of measurement of data- Nominal, Ordinal, interval and ratio. (Distribution of data: Nominal and Binomial).								12	
<b>III</b>	Descriptive statistics – frequency distribution (grouped and ungrouped data) measures of central tendency (mean, median and mode)								12	
<b>IV</b>	Measures of Dispersions, Variance, Mean, Deviation, Standard Deviation and Co-efficient of variation, chi-square test.								12	
<b>V</b>	Types of Sampling- Random, Stratified, Systematic and Purposive.								12	

<b>UNIT</b>	<b>COURSE OUTCOMES</b>	<b>K Level</b>
<b>COI</b>	Recall the use of data, understand the difference between spatial data and attribute data, List out the types of data.	K1, K2 K3
<b>COII</b>	Explain the scales of measurement and its types. Discuss the distribution of the data – Nominal and Binomial.	K1, K2 K3, K4
<b>COIII</b>	Recall and explain the Descriptive Statistics – Frequency distribution (mean, median and mode)	K1 K2 K3 K4
<b>COIV</b>	Discuss and elaborate the measures of dispersion and illustrate the Variance, Mean, Deviation, Standard Deviation and Co-efficient of variation, chi-square test.	K1, K2, K3 K4, K5

<b>COV</b>	Explains sampling and its types. Activity: Group discussion on Random, Stratified, Systematic and Purposive.	K1, K2, K3 K4, K5, K6
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<b>TEXTBOOK:</b>	
1	Zamir Alvi (2002), Statistical Geography: Methods and Applications, Rawat Publishers.
2	Shrikant Karlekar; Mohan (2023), Statistical Analysis of Geographical Data, Diamond Publications Pune.
3	Chandan Surabhi Das (2023), Geospatial Techniques and Research in Geography, Enova Publications.

<b>REFERENCE BOOKS</b>	
1	Peter A. Rogerson (2023), Statistical Methods for Geography.
2	S. C. Gupta (2018), Fundamentals of Statistics, Himalaya Publishing House.
3	N. Das (2017), Statistical Methods, Rawat Publishers.

<b>WEB RESOURCES:</b>	
1	<a href="https://www.statisticalmethodsforgeography.com/geography">https://www.statisticalmethodsforgeography.com/geography</a>
2	<a href="http://www.indianmirror.com/geography/geospatialtechniques.html">www.indianmirror.com/geography/geospatialtechniques.html</a>
3	<a href="https://www.iasgyan.in/blogs/statistics">https://www.iasgyan.in/blogs/statistics</a>

CO/PO/PSO	PO									
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	2	1	2	2	1	2	1	1	1
CO2	3	1	2	1	2	1	2	1	1	1
CO3	3	1	1	1	1	1	1	1	1	1
CO4	3	1	1	1	2	1	1	1	1	1
CO5	2	1	1	2	1	1	2	1	1	1
<b>CO-PO_Total</b>	<b>14</b>	<b>7</b>	<b>7</b>	<b>7</b>	<b>8</b>	<b>5</b>	<b>8</b>	<b>5</b>	<b>5</b>	<b>5</b>
<b>Weightage</b>	3	1	1	1	2	1	2	1	1	1

**S-STRONG-3, MEDIUM-2, LOW-1**



**FIRSTYEAR–SEMESTERII**

<b>COURSENAME:SEC-2 -RECENTTRENDSIN GEOGRAPHY</b>										
<b>COURSE CODE</b>	<b>Category</b> <b>PART 4</b>	<b>L</b>	<b>T</b>	<b>P</b>	<b>S</b>	<b>Credits</b>	<b>TOTAL HOURS</b>	<b>MARKS</b>		
								<b>CIA</b>	<b>External</b>	<b>Total</b>
<b>23UG</b>	<b>SEC-2 NME</b>	<b>2</b>			<b>II</b>	<b>2</b>	<b>60</b>	<b>25</b>	<b>75</b>	<b>100</b>
<b>UNIT</b>	<b>LEARNING OBJECTIVES</b>									
<b>LO1</b>	TogainknowledgeonrecentdevelopmentinGeography									
<b>LO 2</b>	Toenrichthespatialorganizationand itsstructure									
<b>LO 3</b>	Toknowtheprocess andformsofPhysicalGeographyandRegionalGeography									
<b>LO 4</b>	TowidentheknowledgeonPost modernisminsocioeconomicperspectives									
<b>LO 5</b>	TounderstandtheusesofModerntoolsandtechniquesinGeographicalstudy									
<b>UNIT</b>	<b>CONTENTS</b>								<b>NO.OF HOURS</b>	
<b>I</b>	Recenttrendofdevelopmentingeographyduring20 <sup>th</sup> centuries-Paradigms in geography,quantitative revolution, systemapproach, system analysis.								12	
<b>II</b>	Geography-spatialorganizationstructure,patternandprocesses								12	
<b>III</b>	Geography- processes and forms inphysicalgeography–environment and regional geography.								12	
<b>IV</b>	Post modernism and human geography. Political-social-economic, environmentalperspectiveingeography.								12	
<b>V</b>	Changesinmoderntools andtechniques–GIS, Satellite,Remote Sensing, DigitalPhotogrammetry,ML&AI,WebGIS,CloudComputingand Modelling.								12	

<b>UNIT</b>	<b>COURSEOUTCOMES</b>	<b>Klevel</b>
<b>1</b>	<b>Recallandexplain</b> thehistoryofgeographicalgrowth <b>Classify</b> theRecenttrend from20 <sup>th</sup> centuryand <b>describ</b> ethecurrentgrowth <b>Discuss</b> Paradigmsin geography,quantitative revolution,systemapproach,systemanalysis.	
<b>2</b>	<b>Explain</b> theGeographyand itsstructuraldevelopment, <b>Demonstrate</b> withsome theories on spatial organization <b>discuss</b> how structure, pattern and processes influenceGeographical studies	

3	<b>Recall and explain</b> the processes and forms in physical geography– <b>differentiate</b> the growth and structure of environment and regional geography.	
4	<b>Discuss and elaborate</b> the Postmodernism and <b>Illustrate</b> the trending growth of human geography. <b>Explain</b> the Political-social-economic, environmental perspective of geography with recent illustration and theories	
5	<b>Explain</b> the Changes in modern tools and techniques used in geographical Studies <b>demonstrate and summarise</b> the role of recent software GIS, Satellite, Remote Sensing, Digital Photogrammetry in Geographical data ML&AI, WebGIS, Cloud Computing and Modelling adding new dimension of Recent development in the subject matter of Geography	

#### TEXTBOOK:

1	Adams, W.M.(1990): Green Development, Environment and Sustainability in the Third World, Routledge, London.
2	Chapman, K.(1979): people, Pattern and Process, Arnold Heinemann. Chorley, R.J. and Haggett, P(eds)(1967): Models in Geography, Methuen, London.(U.K.)
3	Cole, J.P.(1981): development gap, John & Wiley and Sons. Deskins, D.R.(jr), Kish, G., Nystuen, J.D. and Olsson G.(1977): Geographic Humanism, Analysis and Social Action, Michigan University.

#### REFERENCE BOOKS

1	Anit Daiman–2010-Recent trends in Geography
2	Earth Systems models: an overview GMFLATO 2011
3	On the role of Geography in Earth System Science: A.J.PITMA Geofourm 2005

#### WEB RESOURCES:

1	<a href="http://www.geog.com.cn">http://www.geog.com.cn</a>
2	<a href="https://www.geographynotes.com/essay/recent-trends">https://www.geographynotes.com/essay/recent-trends</a>
3	<a href="https://www.researchgate.net/publication/344149231">https://www.researchgate.net/publication/344149231</a>

CO/PO/PSO	PO									
	PO 1	PO2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10
CO1										
CO2										
CO3										
CO4										
CO5										
<b>CO-PO-Total</b>										
<b>Weightage</b>	3	2	2	2	2	1	1	1	1	1

SEMESTER-II			
SKILL ENHANCEMENT COURSE SEC-3			
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 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,shapeoftheEarth-RocksanditsTypes-Atmosphere:Origin andnature, 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 – Ocean Deposits- Tides	12	CO2
III	Regions-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 with Special Reference to Tamilnadu	12	CO4
V	Population Distribution - Density and growth – Population Problems–Migration and its types	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, <b>Recall</b> Climatic elements <b>explain</b> the composition and Structure of the Atmosphere <b>define</b> Insolation <b>examine</b> the Heat Balance <b>compares</b> Horizontal and Vertical Distribution of Temperature.

<b>II</b>	<b>explains</b> distribution of Land and Sea <b>describes</b> the structure and composition of the Ocean floor the oceanic crust, Group Activity <b>makes a model</b> of Ocean Bottom relief.
<b>III</b>	<b>Develop</b> the in depth knowledge of natural resource and its importance. <b>classify</b> the resources and human intervention and development <b>Applying acquired knowledge</b> marking the region in the map
<b>IV</b>	<b>Recall</b> the Nature and Scope of Human geography, compare with the other branch of Geography, <b>Understand</b> the significance of Human geography, <b>analyse</b> the Man and environment relationship, <b>examine</b> the population data
<b>V</b>	<b>Understanding</b> the basic concepts and significance of population geography, scope of the study, its history and development in Geography. It <b>is important to explore student's knowledge in</b> world population distribution
<b>VI</b>	Assessment Unit

<b>TEXTBOOK:</b>	
1	Thornbury, W.D. (1960): Principles of Geomorphology, John Wiley and Sons, New York.
2	Savindra Singh (2002): Physical Geography, Prayag Pustak Bhawan, Allahabad.
3	D.S. Lal: Climatology. Sharda Pustak Bhawan
4	D.S. Lal: Climatology. Sharda Pustak Bhawan, 11, University road Allahabad-211002 Edition 2003.

<b>WEBSOURCE:</b>	
1	<a href="https://letstalkscience.ca/educational-resources/stem-in-context/processes-shape-landforms">https://letstalkscience.ca/educational-resources/stem-in-context/processes-shape-landforms</a>
2	<a href="https://www.universetoday.com/">https://www.universetoday.com/</a>
3	<a href="https://www.yourarticlelibrary.com/population/theories-of-population-malthus-theory-marxs-theory-and-theory-of-demographic-transition/31397">https://www.yourarticlelibrary.com/population/theories-of-population-malthus-theory-marxs-theory-and-theory-of-demographic-transition/31397</a>

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 Lifelong 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
CO-PO-Avg	3	2	2	2	2	1	2	1	1	1
CO-PO_Total	15	10	6	8	3	6	5	5	5	6