

GOVERNMENT COLLEGE FOR WOMEN

(AUTONOMOUS)

KUMBakonam



Programme: *B.SC., GEOGRAPHY*

Programme Code: USGE

## ***SYLLABUS***

[2023 – 2024 onwards]

***DEPARTMENT OF GEOGRAPHY***

**GOVERNMENT COLLEGE FOR WOMEN (AUTONOMOUS) KUMBAKONAM**  
(Common course structure – B.Sc. – 2023 - 2024)

Department : Geography

Programme Code: USGE

**SEMESTER – I**

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	LC – I	U231T1	Tamil	6	3	3	25	75	100
II	ELC - I	U231E1	English	6	3	3	25	75	100
III	CC – I	U23GC101	<b>Fundamentals of Geomorphology</b>	5	5	3	25	75	100
III	CC – II	U23GC102P	<b>Mapping Techniques - (Practical)</b>	4	2	3	40	60	100
III	GEC – I		<b>1. Cartography 2. Tourism and Travel Management</b>	5	5	3	25	75	100
IV	VE	U231VE	Value education	2	2	3	25	75	100
IV	FC	U23G1FC	<b>Earth and its Systems</b>	2	2	3	25	75	100
			<b>Total</b>	<b>30</b>	<b>22</b>				<b>700</b>

**SEMESTER – II**

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	LC – II	U232T2	Tamil	6	3	3	25	75	100
II	ELC – II	U232E2	English	6	3	3	25	75	100
III	CC – III	U23GC203	<b>Climatology</b>	5	5	3	25	75	100
III	CC - IV	U23GC204P	<b>Representation of Relief Feature (Practical)</b>	4	2	3	40	60	100
III	GEC - II		<b>1. Human Geography 2. Disaster Studies</b>	5	5	3	25	75	100
IV	SEC -I	U23G2SE2	<b>Trends in Geography</b>	2	2	3	25	75	100
IV	EVS	U232ES	Environmental Studies	2	2	3	25	75	100
			<b>Total</b>	<b>30</b>	<b>22</b>				<b>700</b>

**SEMESTER – III**

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	LC – III		Tamil	6	3	3	25	75	100
II	ELC - III		English	6	3	3	25	75	100
III	CC – V		<b>Oceanography</b>	5	5	3	25	75	100
III	CC – VI		<b>Representation of Socio Economic and Climatic Data (Practical)</b>	4	2	3	40	60	100
III	GEC – III		<b>1. Economic Geography 2. Agricultural Geography</b>	5	5	3	25	75	100
IV	SEC - II		<b>Basics of GNSS (Entrepreneurship course)</b>	2	2	3	25	75	100
IV	SEC - III		<b>Geography of Resource</b>	2	2	3	25	75	100
			<b>Total</b>	<b>30</b>	<b>22</b>				<b>700</b>

**SEMESTER – IV**

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
I	LC – IV		Tamil	6	3	3	25	75	100
II	ELC - IV		English	6	3	3	25	75	100
III	CC – VII		<b>Geography of India</b>	5	5	3	25	75	100
III	CC – VIII		<b>Surveying and Projections for Geography (Practical)</b>	4	2	3	40	60	100
III	GEC – IV		<b>1. Statistical Applications for Geography 2. Urban Geography</b>	5	5	3	25	75	100
IV	SEC – IV		<b>Population Geography</b>	2	2	3	25	75	100
IV	SEC - V		<b>Settlement Geography</b>	2	2	3	25	75	100
			<b>Total</b>	<b>30</b>	<b>22</b>				<b>700</b>
			Internship/Industrial training*	-	-				

\*Internship/industrial training during summer vacation. The credits shall be awarded in Semester V statement of marks.

**SEMESTER – V**

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
III	CC – IX		<b>World Regional Geography</b>	6	5	3	25	75	100
III	CC – X		<b>Geography of Tamilnadu with special reference to specific region</b>	6	5	3	25	75	100
III	CC – XI		<b>Basics of GIS</b>	5	4	3	25	75	100
III	CC – XII		Project with Viva voce	3	3	3	25	75	100
III	DSE – I		<b>Applied Statistics (Practical)</b>	4	2	3	40	60	100
III	DSE – II		<b>1. Bio Geography 2. Geography of Sri Lanka</b>	4	3	3	25	75	100
IV	SEC – VI		<b>Geography of Health</b>	2	2	3	25	75	100
IV	AEC - I		Internship/Industrial training	-	2				
			<b>Total</b>	<b>30</b>	<b>26</b>				<b>700</b>

**SEMESTER – VI**

Part	Course Type	Course Code	Title of the Course	Hrs/Week	Credits	Exam Hrs	Marks		
							Int	Ext	Total
III	CC – XIII		<b>Remote sensing and GNSS</b>	6	5	3	25	75	100
III	CC – XIV		<b>Social and Cultural Geography</b>	5	5	3	25	75	100
III	CC - XV		<b>Political Geography</b>	5	5	3	25	75	100
III	DSE – III		<b>Cartographic Appreciation and Interpretation of Maps and Images (Practical)</b>	4	2	3	40	60	100
III	DSE - IV		<b>1. Transport Geography 2. Landuse and Cadastral Surveying</b>	5	3	3	25	75	100
IV	SEC – VII		<b>Geography of Tourism</b>	2	2	3	25	75	100
IV	AEC - II		Professional competency skill – General awareness for competitive examinations	2	2	3	25	75	100
IV	GS		Gender studies	1	1	3	25		100
	EA		Extension Activity	-	1				
			<b>Total</b>	<b>30</b>	<b>26</b>				<b>800</b>

**Programme Outcomes:**

**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; analyse 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, synthesising and articulating; Ability to recognise cause-and-effect relationships, define problems, formulate hypotheses, test hypotheses, analyse, 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 analyse, 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. On successful completion of Bachelor of Physics with Computer Applications programme, the student should be able to:

**PO 11 Self-directed learning:** Ability to work independently, identify appropriate resources required for a project, and manage a project through to completion.

**PO 12 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.

**PO 13: 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.

**PO 14: 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.

**PO 15: 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/reskilling.

#### **Programme Specific Outcomes:**

**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:** Analyse 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 analyse 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.

**SEMESTER-I**

**COURSE CORE - CC I  
FUNDAMENTALS OF GEOMORPHOLOGY**

<b>Theory Hours : 5</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 5</b>
<b>Exam Hours : 3</b>	<b>Marks : 100</b>

**OBJECTIVES**

- To understand scope and content of Geomorphology; and explains the Rocks and types of rocks.
- To Explain the continental drift theory, classify Endogenic and Exogenic forces. Discuss the fold, fault and volcano types.
- To illustrate the factors affecting weathering and its types.
- To compare and classify Glacier and its types and types of land forms.
- To explain the work of wind waves.

**Unit : I**

Geomorphology – Meaning – Scope and Content (Structure of the earth) – Rocks-Rocks types (Igneous Rock, Metamorphic Rock, and Sedimentary Rock).

**Unit : II**

Wegener’s continental drift theory – Sea floor spreading – Plate tectonics- Earth movements (Endogenic and Exogenic) - Fold and its types – Fault and its types - Earthquake and its types - Types of Volcanoes.

**Unit : III**

Weathering: Factors affecting Weathering-Types of Weathering Mass Wasting and its types- Agents of Gradation – Normal Cycle of Erosion – Davis cycle (structure, stage, process) Work of Rivers- Erosion –Transportation- Deposition – Erosional and Depositional Land forms.

**Unit : IV**

Work of Glaciers– Types of Glaciers – Glacial Landforms - Erosional and Depositional Landforms. Underground Water – Water Table – Aquifer- Spring and its types – Karst Landforms – Erosional and Depositional Landforms.

**Unit : V**

Work of Wind- Erosional Landforms and Depositional Landforms. Work of waves- Erosional landforms- Depositional landforms of Sea waves and Types of coasts.

**Unit : VI**

Assessment Unit

**LEARNING OUTCOMES:**

1. **Recall** the meaning, Scope and Content of **Geomorphology**. **Summarise** the interior structure of the earth, differentiate the types of rocks their formation, and the Rock cycle, **understand** the formation of major landforms and Knows the distribution of Land and Sea, Are able to identify the formation and type of rocks.
2. **Relates** Wegener’s continental drift theory, Sea floor spreading, Plate tectonics and Earth movements (endogneic and exogneic) to the formation of mountain, plateau, plains and lakes with its types.
3. **Differentiates** the weathering process and mass wasting and their types, **understands** Normal Cycle of Erosion of Davis (structure, stage, process). **identifies** Work of Rivers.
4. **Understands** and **appreciates** the formation of various landforms by Glacier, underground water, Aquifer and karst topography.
5. **Understands** and **appreciates** the formation of various landforms formed by wind and waves.
6. Assessment Unit.

**Reference:**

1. Dale F. Ritter, (2011) Process Geomorphology – Waveland Pr Inc Publication
2. Das Gupta, A & Kapoor, A.N. (2001) Principles of Physical Geography, S.C. Chand & Company Ltd. New Delhi.
3. Strahler, A. H. & Strahler, A N. (2001) Modern Physical Geography (4/E), John Wiley and Sons, Inc., New York.
4. Khullar, D.R., (2012) Physical Geography, Kalyani Publishers, New Delhi.
5. Negi B.S. (1993) Physical Geography, S.J. Publications, Meerut.
6. Robert S. Anderson (2010) – Geomorphology: The Mechanics & Chemistry of Landscape, Cambridge University

**MAPPING OF POs WITH COs**

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

**SEMESTER-I****COURSE CORE - CC II  
MAPPING TECHNIQUES (PRACTICAL)**

<b>Theory Hours :-</b>	<b>Course Code :</b>
<b>Practical Hours : 4</b>	<b>Credit : 2</b>
<b>Exam Hours : 3</b>	<b>Marks : 100</b>

**OBJECTIVES**

- To understand the components of Maps and Scale Measurements.
- To illustrate and examine the Representation of Maps.
- To illustrate the direction of Maps.
- To elaborate on the need for conventional signs and symbols in Maps.
- To introduce the mapping techniques applied for enlargement and reduction.

**Unit : I**

Scales – Representative fraction and Statement of the scale- Types of scales – Plain scales – Time scale – comparative scale - Diagonal scale.

**Unit : II**

Representation of direction on maps : Directions-True north, Grid, Magnetic north – Magnetic declination.

**Unit : III**

Bearings – True bearing and magnetic bearing - Latitude and Longitude – International dateline – International Time Calculation.

**Unit : IV**

Conventional signs and symbols - Measurement of distance (Thread- Divider- Opisometer) and Measurement of area (Graphical and strip method).

**Unit : V**

Enlargement and Reduction of maps - Combination of Maps.

**Unit : VI**

Assessment Unit.

**LEARNING OUTCOMES:**

1. **Recalls.** Map components – Maps- Types of Map Scale–and 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 – Pace scale – Time scale.

2. **Understanding** of facts Representation of direction on maps – Explain the Directions- True north, Grid, Magnetic north – Magnetic declination.
3. Identify the Latitude and Longitude – International dateline – Explain the International Time Calculation.
4. **Define** the Conventional signs and symbols- calculate the Measurement of distance (Thread- Divider Opisometer) and Measurement of area (Graphical and strip method).
5. Enlargement and Reduction of maps -Combination of Map.

**References:**

- I. Bagulia A.M (2006): Practical Geography, Anmol Pyblishers.
- II. Jayachandran, (1964): Practical Geography (Tamil Edition) Tamil Nadu Text Book Society, Chennai.
- III. B.S. Negi (1995) Text Book of practical Geography, Kedarnath, Ramnath, Meerut.
- IV. Gopal Singh (1996) Map Work Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi
- V. Monk House, F.J. & Wilkinson, H.R. (1973) Maps and Diagrams, Methuen & Co Ltd, London.

**MAPPING OF POs WITH COs**

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

**SEMESTER-I****GEC - I  
1.CARTOGRAPHY**

<b>Theory Hours : 5</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 5</b>
<b>Exam Hours : 3</b>	<b>Marks : 100</b>

**OBJECTIVES**

- To understand the development and history of Cartography, with the types of maps.
- To illustrate and examine the components of Maps.
- To elaborate on the representation of mapping techniques.
- To enrich the development of remote sensing in the cartography.
- To summarize the recent technologies in digital Cartography

**Unit : I**

Definition - History and Development of Cartography - Maps - Types of Maps based on Scale Purpose, Relief and Thematic Maps Qualitative and Quantitative uses of Maps in Geography.

**Unit : II**

Components of a Maps - Scale - Direction - Projection- Conventional Signs and Symbols - Lettering, Symbolization.

**Unit : III**

Techniques of Map Representation - Isopleth - Interpolation of Contours - Mapping of Socio-Economic Data - Dot Maps Circle - Sphere- Square - Choropleth - Choro schematic - Choro Chromatic Maps.

**Unit : IV**

Development of Remote Sensing - Aerial Photography, Aerial Photo Interpretation- Satellite Imageries - Advantage of Digital Maps over Conventional Maps.

**Unit : V**

Recent Technologies in Cartography - CAD- GIS- ARC GIS- QGIS - GPS.

**Unit : VI**

Assessment Unit

**LEARNING OUTCOMES:**

1. **Understanding** the basic concepts of cartography, scope of the study, its history and development in Geography. It is important to **explore student's** knowledge in maps and its types. **Explore** the Purposes in creation of thematic maps, weather maps, special purpose maps and Topographic maps. **Acquire** the know through shape and size of the earth.
2. **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. **Develop** the in depth knowledge of geographic co ordinate system.
3. **Understanding** of facts and ideas of representation of physical data through contour diagram, making profiles and block diagrams to get idea of topographical structure. **Define** the techniques of thematic mapping, and its types of simple, complex and semi) **explains and explore** the Mapping of terrain (contouring, layer tinting, hill shading, Hachures).
4. **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.
5. Learns the recent technologies in Cartography.
6. Assessment Unit.

**References:**

- I. Border, D. (1990). *Cartography : Thematic map design*. WCB WMC Brocan Pub
- II. Tyner, Judith. (1992). *Introduction to thematic Cartography*. Prentice Hall, New Jersey.

**MAPPING OF POs WITH COs**

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

**SEMESTER-I****GEC- I****2. TOURISM AND TRAVEL MANAGEMENT**

<b>Theory Hours : 5</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 5</b>
<b>Exam Hours : 3</b>	<b>Marks : 100</b>

**Objective:**

- To enrich the basic knowledge of the Elucidate the basic concepts.
- To illustrate the history of Tourism in the world.
- To elaborate the Forms of tourism.
- To understand economic and social significance of tourism.
- To understand the distribution and patterns of tourism development.

**Unit I**

Scope and Content of Tourism – Components: Accessibility, Accommodation, Attraction – Motivation – Seasonality - Types of Tourism: Religious, Cultural, Historical, Recreational, Coastal, Ecological and Medical tourism.

**Unit II**

Growth of Tourism - History of travel: Ancient, medieval and modern period - Accounts of famous travelers - origin and concept of the annual holiday - Industrial revolution and Development of travel

**Unit III**

Forms of Tourism: National tourism (Domestic) -International Tourism (Inbound and Outbound Tourism) –New Forms of Tourism: Adventure, Green Tourism, Eco tourism, Health, MICE Tourism, Soft Tourism, Sports Tourism and Rural tourism.

**Unit IV**

Economic and Social significance of tourism - Impacts of Tourism: Socio Cultural, Economic, and Environmental impacts - Effects on employment - Development of infrastructure - Tourism as a foreign exchange earner

**Unit V**

Tourism development in India – Tourism in Tamil Nadu - Tourism organizations: ITDC, TTDC, Ministry of Tourism, Ministry of Railways and Civil Aviation departments - An overview of National and International Organizations and Associations: IATO, TAAI, FHRAI and WTO.

**Unit : VI**

Assessment Unit

**LEARNING OUTCOMES:**

1. Explain the Nature of Tourism, Basic concepts, components of Tourism.
2. **Recall** the History of Tourism in Ancient, Medieval and Modern Periods.
3. Understanding the Elements of tourism – Attraction, Accessibility and Amenities.
4. Understanding the impact of tourism.
5. Critique tourism practices for their implications locally and globally.

**References:**

- I. Swain and Mishra (2011), “Principles of Tourism”, Oxford University Press, New Delhi
- II. A.K.Bhatia,(2012) “Tourism Development: Principles and Strategies, Sterling Publishers, New Delhi
- III. Sinha, P.C., (2005), “Tourism Management” Vol. – 4”, Anmol Publications, New Delhi.
- IV. Velvet Nelson (2013) – An Introduction to the Geography of Tourism, Rowman& Littlefield Publishers
- V. Ballabh, A (2005), “Fundamentals of Travel and Tourism”, Akansha Publishing House, NewDelhi

**MAPPING OF POs WITH COs**

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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



**SEMESTER-I****FOUNDATION COURSE - FC  
EARTH AND ITS SYSTEMS**

<b>Theory Hours : 2</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 2</b>
<b>Exam Hours : 3</b>	<b>Marks :</b>
<b>100</b>	

**OBJECTIVES**

- To understand the basic concept of Universe and its origin and the theories of Evolution : Nebula, Kant and Big Bang Theory.
- To understand Earth and Universe- Solar systems , Milky way Galaxy and Black hole theory and Meteorites.
- To explain the Earth Internal Structure the Core, Mantle, Crust and also the Earth's Magnetism.
- To illustrate about the Earth's Size, Rotation and Revolution, causes for Seasons, Eclipses and Solstice.
- To explain the latitude and longitude, Cardinal points, Greenwich Meridian and Indian Standard Time. To given an understanding on the Time calculation.

**Unit : I**

The Universe and its Origin- Theories of Evolution: Nebula, Kant, and Big Bang Theory.

**Unit : II**

Earth and Universe - Solar system- Galaxy ( Milky way) – Cosmobody - Black hole – Meteorites.

**Unit : III**

Earth's internal structure – Earth's crust, mantle, and core – Discontinuity- Isostasy – Earth's magnetism.

**Unit : IV**

Earth and its Size -Earth Rotation and Revolution – Inclination Causes – (Seasons Day and Night) – Summer and Winter Solstice - Eclipse.

**Unit : V**

Latitudes and Longitudes– Cardinal Points - Greenwich Meridian – Indian Standard time- Time Calculation.

**Unit : VI**

Assessment Unit

**LEARNING OUTCOMES:**

1. 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.
2. Understands the changes over the universe periodically , distinguish the earth rotation and revolution and its causes explain how day and night cause, evaluates the logic behind the time calculation.
3. Recalls and Understands the size and position of planets, summarise with importance of direction in Geographical location.
4. A evaluate the size and position of planets, summarise with importance of direction in Geographical location(**Interactive session with questions**).
5. Identifies the earth rotation and revolution and its causes explain how day and night cause,evaluate the logic behind the time calculation discuss the location of Greenwich and calculate the Indian standard time.

**References:**

- I. Christopherson, R.W. and Birkeland, G. H. (2012) Geosystems: An Introduction to Physical Geography (8/E), Pearson Education, New Jersey.
- II. Dale F. Ritter, (2011) Process Geomorphology – Waveland PrInc Publication
- III. Das Gupta, A & Kapoor, A.N. (2001) Principles of Physical Geography, S.C. Chand & Company Ltd. New Delhi.
- IV. Ernst, W.G. (2000) Earth Systems: Process and Issues (Ed.), Cambridge University Press.
- V. Gochenleong(2001): Certificate Physical and Human Geography.

**MAPPING OF POs WITH COs**

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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	

## SEMESTER-II

### CORE COURSE – CC III CLIMATOLOGY

<b>Theory Hours : 5</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 5</b>
<b>Exam Hours : 3</b>	<b>Marks :</b>
<b>100</b>	

#### OBJECTIVES

- To understand the basic concepts and scope of climate and differentiate the weather and climate and assess the composition of atmosphere.
- To classify the Atmospheric Pressure and Winds.
- To illustrate the types of air masses and fronts.
- To elaborate the Atmospheric Moisture and climatic regions.
- To understand the basic concepts of Cyclone and its mechanism.

#### Unit : I

Scope and Content – Weather and Climate – Climatic Elements- Atmospheric Composition and Structure– Insolation and Temperature: Factors and Distribution, Heat Budget, Temperature Inversion.

#### Unit : II

Atmospheric Pressure and Winds: Planetary Winds, Forces affecting Winds, General Circulation of Air, Jet Streams.

#### Unit : III

Air Masses- Classification of Air Masses- Fronts- Classification of Fronts.

#### Unit : IV

Atmospheric Moisture: Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types, Stability and Instability; Climatic Regions.

#### Unit : V

Cyclones: Tropical Cyclones, Temperate Cyclones, Monsoon - Origin and Mechanism, El Nino – LA Nina.

#### Unit : VI

Assessment Unit.

#### LEARNING OUTCOMES:

1. **Recall** Climatic elements **explain** the composition and Structure of the Atmosphere **define** Insolation **examine** the Heat Balance **compares** Horizontal and Vertical Distribution of Temperature.
2. **Defines** Atmospheric Pressure, **Compares** Horizontal and Vertical Distribution of Pressure **draw** the major Pressure Belts **Differentiates** Planetary Winds, Periodic and Local Winds, Group Activity Make a Model on Major pressure Belts and Planetary winds.
3. **Illustrate** the formation of Jet Streams **summarise** the formation of Air Masses and Fronts.
4. **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 (Convictional, Orographic and Cyclonic) **discuss** and **debate** on Issues in Global Climate Changes.
5. **Draw map for** Circulation of Ocean Currents and the distribution **Discuss and debate** on ElNino – LaNina

#### References:

- I. Barry, R.G. & Chorley, R.J., (2003) Atmosphere, Weather and Climate, 11th Edition, Routledge.
- II. Critchfield, H. J., (1987): General Climatology, Prentice-Hall of India, New Delhi
- III. Das,R.K.,(1968): The Monsoons, National Book Trust, New Delhi.
- IV. Das Gupta, A & Kapoor, A.N. (2001) Principles of Physical Geography, S.C. Chand & Company Ltd. New Delhi.

#### MAPPING OF POs WITH COs

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

## SEMESTER-II

### CORE COURSE – CC IV REPRESENTATION OF RELIEF FEATURES (PRACTICAL)

<b>Theory Hours</b> :-	<b>Course Code</b> :
<b>Practical Hours</b> : 4	<b>Credit</b> : 2
<b>Exam Hours</b> : 3	<b>Marks</b> :
<b>100</b>	

#### OBJECTIVES

- To enhance techniques applied in the Representation of relief on maps.
- To introduce the mapping techniques applied to interpret contours.
- To enhance techniques applied in the Profiles.
- To enhance the students in gaining knowledge of concepts and components using Drainage basin and stream ordering.
- To get an idea of Calculation of Drainage shape analysis.

#### Unit : I

Representation of relief on maps: Spot heights, bench mark, triangulation station -layer shading- Hachuring, hill shading and Contours.

#### Unit : II

Contour section drawing-Types of slopes (Uniform, Concave and Convex)-(Hill-Plateau-Ridge- Escarpment-V-shaped Valley-Waterfalls and Sand dunes).

#### Unit : III

Profiles (Serial- Super imposed -Projected– Composite).

#### Unit : IV

Drainage Basin Analysis - Stream Ordering - Strahler's Method.

#### Unit : V

Drainage Shape Analysis : Simple Method.

#### Unit : VI

Assessment Unit.

#### LEARNING OUTCOMES:

1. To understand the Representation of relief on maps, Spot heights, , bench mark, triangulation ,station - layer shading- and calculate the Interpolation of contours.
2. **Understands** the Contour section drawing - Types of slopes (Uniform, Concave and Convex)-(Hill Plateau-Ridge- Escarpment V-shaped Valley-Waterfalls and Sand dunes).
3. To draw a Profiles (serial- superimposed-projected – composite).
4. To draw a Drainage basin analysis in stream ordering.
5. To understand Drainage shape analysis and its methods.

#### References:

1. Jayachandran, (1964): Practical Geography (Tamil Edition) Tamil Nadu Text Book Society, Chennai.
2. King, C. A.M (1966) Techniques in Geomorphology, Edward Arnold, London
3. Gopal Singh (1996) Map Work Practical Geography, Vikas Publishing House Pvt. Ltd., New Delhi.
4. Gopal Singh (1998) Map Work and Practical Geography (4th Edition), Vikas Publishing House, Ahmedabad.
5. Monk House, F.J. & Wilkinson, H.R. (1973) Maps and Diagrams, Methuen & Co Ltd, London.
6. Negi B.S. (1995) Text Book of practical Geography, KedarNath, Ramnath, Meerut.
7. Saha, P. &Basu, P. (2014) Advanced Practical Geography, Books and Allied Ltd., Kolkatta.

#### MAPPING OF POs WITH COs

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

## SEMESTER-II

### GEC - II

#### 1. HUMAN GEOGRAPHY

<b>Theory Hours : 5</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 5</b>
<b>Exam Hours : 3</b>	<b>Marks :</b>
<b>100</b>	

#### OBJECTIVES

- To understand the basic concepts of Human Geography and assess the relationship between Man and Environment.
- To elaborate the school of thoughts.
- To discuss the distribution of Major Human Races in World.
- To illustrate the World Major Religions.
- To compare and distinguish the World Major Languages and Language groups

#### Unit : I

Human Geography – Nature, Scope and Significance of Human Geography – Man and Environment Relationship.

#### Unit : II

Determinism, Neo Determinism , Possibilism - French – German – British – UK – Humanism – Behaviorism.

#### Unit : III

Major Human Races in World – Classification of Major Races – Caucasoid - Mongoloid – Negroid – Racial Parameters and indices.

#### Unit : IV

World Major Religions: Religion distribution – Hinduism - Buddhism – Jainism - Christianity- Islam- Religions in India.

#### Unit : V

World Major Languages and Language groups – Tamil, Chinese, English – Hindi - Arabic – German- French and Portuguese.

#### Unit : VI

Assessment Unit.

#### LEARNING OUTCOMES:

1. **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, **explain** the theories of population, **examine** the population data.
2. Understands the basis of the study of Geography.
3. **Explain** the distribution of Major human races in the world, compare World Distribution of Races, **analyse** Racial parameters and indices( Shape, Skull, Face, Nose, Stature,, **examine** White (Caucasian), **Classifying** Asian (Mongoloid), outline the Black(Negroid Group discussion Classification of Races).
4. **Recall** the Major Religions, explain Hinduism, Buddhism, Jainism, Christianity, Islam, **examine** the Religious distribution around the world, **compare** Languages, Vernacular and Dialectics.
5. Estimate the distribution of Language groups ( Chinese, Spanish, English, Hindi, Arabic German, French and Portuguese

#### References:

- I. Chandna, R.C. (2010) Population Geography, Kalyani Publisher, New Delhi.
- II. Cheng Leong, G. & Morgan, G.C. (1995) Human and Economic Geography, Oxford University Press, Oxford
- III. Johnston, R; Gregory, D, Pratt, G. et al. (2008) The Dictionary of Human Geography, Blackwell Publication, New Jersey.

#### MAPPING OF POs WITH COs

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

## SEMESTER-II

### GEC - II

#### 2. DISASTER STUDIES

<b>Theory Hours : 5</b>	<b>Course Code :</b>
<b>Practical Hours : -</b>	<b>Credit : 5</b>
<b>Exam Hours : 3</b>	<b>Marks : 100</b>

#### Objective:

- To enhance the aims to introduce basic concepts of disaster.
- To get an idea of types of disaster.
- To enhance the disaster of India about the Earthquake, Tsunami and Cyclone.
- To display the Human induced disaster.
- To enrich the knowledge about the Response and Mitigation to Disaster.

#### Unit I

Aim and Scope of Disaster Studies, Risk, Vulnerability and Disasters: Definition and Concepts.

#### Unit II

Disaster Types: Geological (Earthquakes, Tsunami and Landslide), Meteorological (Cyclone and Heat Wave), Hydrological (Flood and Drought) and Anthropogenic (Accidents and Deforestation)

#### Unit III

Disasters in India: (a) Causes, Impact, Distribution and Mapping: Flood, Landslide, and Drought, Earthquake, Tsunami and Cyclone.

#### Unit IV

Human induced disasters: Causes, Impact, Distribution and Mapping.

#### Unit V

Response and Mitigation to Disasters: Mitigation and Preparedness, NDMA and NIDM; Indigenous Knowledge and Community-Based Disaster Management; Do's and Don'ts during Disasters.

#### Learning Outcomes:

1. Comprehensive basic knowledge of disasters.
2. List out the Disasters in India Flood, Landslide, and Drought.
3. List out the Disasters in India Earthquake, Tsunami and Cyclone.
4. Recall the Human induced disasters
5. Analysis Response and Mitigation to Disasters.

#### References:

- I. Government of India, 1997. Vulnerability Atlas of India. New Delhi, Building Materials & Technology Promotion Council, Government of India.
- II. Kapur, A., 2010. Vulnerable India: A Geographical Study of Disasters, Sage Publication, New Delhi. Suggested References
- III. Savindra S. and Jeetendra S. (2013) Disaster Management, Pravalika Publications, Allahabad.
- IV. NDMA (2011) Disaster Management in India. Ministry of Home Affairs, New Delhi.
- V. Carter, N. (1991) Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila.
- VI. <http://www.ndma.gov.in/en/> and <http://nidm.gov.in/>

#### MAPPING OF POs WITH COs

MPO	PSO1	PSO2	PSO3	PSO4	PSO5	PSO6	PSO7	PSO8	PSO9	PSO10
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

**SEMESTER-II**

**SEC - I  
TRENDS IN GEOGRAPHY**

<b>Theory Hours : 2</b>	<b>Course Code :</b>
<b>Practical Hours :-</b>	<b>Credit : 2</b>
<b>Exam Hours : 3</b>	<b>Marks : 100</b>

**OBJECTIVES**

- To enhance the students in gaining knowledge of concepts and components using Remote Sensing.
- To get an idea of Aerial Photographs and their uses in topographical mapping.
- To enhance the quality of data collection and uses of images.
- To display the new technology used and analyze spatial data, it combines the advantages of both the Internet and GIS.
- To enrich the knowledge about the data acquired and study of major Satellite Systems in world.

**Unit : I**

Remote sensing: Components of remote sensing – Electro Magnetic Spectrum - Energy interaction with atmosphere and Earth - Resolutions.

**Unit : II**

Aerial photography: Types of aerial photography and uses - Stereoscopic - Photogrammetry.

**Unit : III**

Digital Data: Basic Characteristics of digital image - data type and file format- Data acquisition and interpretation- Use of multiple images.

**Unit : IV**

Web GIS: components of Web GIS - concept of maps and software -Open source Software— GRASS – ILWIS – Open street map - QGIS - Saga GIS - Map window- cloud GIS.

**Unit : V**

Major satellite systems: Sensors and data products of IRS, LANDSAT, SPOT, ERS, IKONOS, Quick Bird, ORBVIEW, ASTER, MODIS, WORLD VIEW, AVIRIS, CASI, MODIS and Hyperion.

**Unit : VI**

Assessment Unit.

**LEARNING OUTCOMES:**

1. **Defines** remote sensing, **lists** the types of remote sensing, **summarize** development of Space Programs **explores** Organizations Associated with Remote Sensing in India and in other Countries.**Lists** the Sources of Energy, **defines** Electromagnetic Radiations.
2. **Lists** the Components of Aerial Camera, **differentiates** types of Aerial Photographs, **examines** Marginal Information of Aerial Photographs, **summarizes** Elements of Photo Interpretation.
3. **Define** the components of Slope, Aspects, overlay operations and statistical analysis. **Understands** Vector data – topological and non-topological vector data.
4. **Recalls and Understands** GIS Integration: **Identifies** Integration techniques.
5. Appreciate the development and uses of major satellite remote sensing system.

**References:**

- I. Campbell, J. B., (2007) Introduction to Remote Sensing, Guildford Press, New York.
- II. Jensen, J. R., (2004) Introductory Digital Image Processing: A Remote Sensing Perspective, Prentice Hall, New Jersey.
- III. Joseph, G. (2005) Fundamentals of Remote Sensing, Universities Press, Hyderabad.

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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