BHARATHIDASAN UNIVERSITY TIRUCHIRAPPALLI - 620 024.

B.Sc. GEOGRAPHY

CHOICE BASED CREDIT SYSTEM –

LEARNING OUTCOMES BASED CURRICULUM FRAMEWORK (CBCS - LOCF)

(Applicable to the candidates admitted from the academic year 2022-23 onwards)

(NAAN MUDHALVAN SCHEME was implemented from 2nd to 6th Semester)

Sem.	Part	Course	Title	Ins. Hrs	Credit	Exam Hours	Marks		Total
							Int.	Ext.	
I	I	Language Course – I Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course - I		6	3	3	25	75	100
	III	Core Course – I (CC)	Earth System Science	5	5	3	25	75	100
		Core Practical – I (CP)	Map Scales & Relief Feature Representation	4	4	3	40	60	100
		First Allied Course – I (AC)		4	4	3	25	75	100
		First Allied Practical (AP)		3	-	-	-	-	-
	IV	Value Education		2	2	3	25	75	100
	TOTAL			**30**	**21**	**-**	**-**	**-**	**600**
II	I	Language Course - II Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course - II		4	3	3	25	75	100
	III	Core Course – II (CC)	Geomorphology	5	5	3	25	75	100
		Core Practical - II(CP)	Techniques of Terrain Analysis & Mapping	4	4	3	40	60	100
		First Allied Practical (AP)		3	2	3	40	60	100
		First Allied Course – II (AC)		4	4	3	25	75	100
		Add on Course – I ##	Professional English – I	6*	4	3	25	75	100
	IV	Environmental Studies		2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NMS) @@	Language Proficiency for Employability - Effective English	2	2	3	25	75	100
	TOTAL			**30**	**29**	**-**	**-**	**-**	**900**

III	I	Language Course – III Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course - III		6	3	3	25	75	100
	III	Core Course – III (CC)	Climatology and Oceanography	5	5	3	25	75	100
		Core Practical - III (CP)	Representation of Climatic Diagrams	4	4	3	40	60	100
		Second Allied Course – I (AC)		4	4	3	25	75	100
		Second Allied Practical (AP)		3	-	-	-	-	-
		Add on Course – II ##	Professional English - II	6*	4	3	25	75	100
	IV	Non-Major Elective I @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either a) Basic Tamil if Tamil language was not studied in school level **or** b) Special Tamil if Tamil language was studied upto 10^{th} & 12^{th} std.	Disaster Studies	2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NMS) @@	Digital Skills for Employability – Microsoft Digital Skills	-	2	3	25	75	100
	TOTAL			**30**	**27**	**-**	**-**	**-**	**800**
IV	I	Language Course –IV Tamil $ / Other Languages + #		6	3	3	25	75	100
	II	English Course – IV		6	3	3	25	75	100
	III	Core Course - IV (CC)	Cartography	5	5	3	25	75	100
		Core Practical - IV (CP)	Mapping, Analysis of Qualitative & Quantitative Data	4	4	3	40	60	100
		Second Allied Practical - (AP)		3	2	3	40	60	100
		Second Allied Course – II (AC)		4	4	3	25	75	100
	IV	Non-Major Elective II @ - Those who choose Tamil in Part I can choose a non-major elective course offered by other departments. Those who do not choose Tamil in Part I must choose either a) Basic Tamil if Tamil language was not studied in school level **or** b) Special Tamil if Tamil language was studied upto 10^{th} & 12^{th} std.	Geography of Tamil Nadu	2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NM) @@	Employability Skills - Employability Skills	-	2	3	25	75	100
	TOTAL			**30**	**25**	**-**	**-**	**-**	**800**

V	III	Core Course - V (CC)	Human Geography	5	5	3	25	75	100
		Core Course – VI (CC)	Bio Geography	5	5	3	25	75	100
		Core Course – VII (CC)	Geography of India	5	5	3	25	75	100
		Core Practical -V (CP)	Topographical Map Analysis	4	4	3	40	60	100
		Major Based Elective – I (Any one)	1. Population Geography 2. Health and wellbeing	5	4	3	25	75	100
	IV	Skill Based Elective I	Disaster Studies	4	2	3	25	75	100
		Soft Skills Development		2	2	3	25	75	100
	VI	Naan Mudhalvan Scheme (NMS) @@	Marketing & Design Tools – Digital Marketing	-	2	3	25	75	100
	TOTAL			**30**	**29**	**-**	**-**	**-**	**800**
VI	III	Core Course - VIII (CC)	Settlement Geography	6	5	3	25	75	100
		Core Course - IX (CC)	World Regional Geography	6	5	3	25	75	100
		Core Practical – VI (CP)	Map Projection and Surveying	4	4	3	40	60	100
		Major Based Elective – II (Any one)	1. Regional Planning 2. Political Geography	5	4	3	25	75	100
		Project		4	3	-	20	80	100
	IV	Skill Based Elective – II	Geography of Tourism	4	2	3	25	75	100
	V	Gender Studies		1	1	3	25	75	100
		Extension Activities **		-	1	-	-	-	-
	VI	Naan Mudhalvan Scheme (NMS) @@	Career Readiness Programme	-	2	3	25	75	100
	TOTAL			**30**	**27**	**-**	**-**	**-**	**800**
GRAND TOTAL				**180**	**158**	**-**	**-**	**-**	**4700**

List of Allied Courses

First Allied Course	Second Allied Course
Statistics	**Geology / Geoinformatics**

$ For those who studied Tamil upto 10th +2 (Regular Stream).

+ Syllabus for other Languages should be on par with Tamil at degree level.

Those who studied Tamil upto 10th +2 but opt for other languages in degree level under Part- I should study special Tamil in Part – IV.

The Professional English – Four Streams Course is offered in the 2nd and 3rd Semester (only for 2022-2023 Batch) in all UG Courses. It will be taught apart from the Existing hours of teaching / additional hours of teaching (1 hour /day) as a 4 credit paper as an add on course on par with Major Paper and completion of the paper is must to continue his / her studies further. (As per G.O. No. 76, Higher Education (K2) Department dated: 18.07.2020).

* The Extra 6 hrs / cycle as per the G.O. 76/2020 will be utilized for the Add on Professional English Course.

@ NCC Course is one of the Choices in Non-Major Elective Course. Only the NCC cadets are eligible to choose this course. However, NCC Course is not a Compulsory Course for the NCC Cadets.

** Extension Activities shall be outside instruction hours.

@@ Naan Mudhalvan Scheme.

SUMMARY OF CURRICULUM STRUCTURE OF UG PROGRAMMES

Sl. No.	Part	Types of the Courses	No. of Courses	No. of Credits	Marks
1.	I	Language Courses	4	12	400
2.	II	English Courses	4	12	400
3.	III	Core Courses	8	40	800
4.		Core Practical	7	29	700
5.		Allied Courses I & II	4	16	400
6.		Allied Practical	2	4	200
7.		Major Based Elective Courses	2	8	200
8.		Add on Courses	2	8	200
9.		Project	1	3	100
10.	IV	Non-Major Elective Courses (Practical)	2	4	200
11.		Skill Based Elective Courses	2	4	200
12.		Soft Skills Development	1	2	100
13.		Value Education	1	2	100
14.		Environmental Studies	1	2	100
15.	V	Gender Studies	1	1	100
16.		Extension Activities	1	1	0
17.	VI	Naan Mudhalvan Scheme	5	10	500
	Total		**48**	**158**	**4700**

PROGRAMME OBJECTIVE:

1. The B.Sc., Geography program provides a basic over view of physical and cultural geography.
2. The program makes familiar about the geographic terminologies
3. The program upscale the knowledge of India and world regional information
4. The program B.Sc., Geography focused to handle maps published by government of India.
5. The program B.Sc., Geography emphasised with modern techniques like geoinformatics.

PROGRAMME OUTCOMES:

1. The B.Sc., Geography program inculcate the concepts of physical geography and geomorphology.
2. The program makes familiar geography of India
3. The program provides a comprehensive understanding of geography of Tamil Nadu
4. The program B.Sc., Geography make familiar to appreciate and interpret the maps published by Survey of India at different scales.
5. The program B.Sc. Geography give confidence to the students to handle remote sensing data.
6. Geoinfomatics practical courses provided to enhance the employability of the students.

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First Year **CORE COURSE I** **Semester I**

EARTH SYSTEM SCIENCE

Code: **(Theory)** **Credit: 5**

COURSE OBJECTIVES:

- The course deals about the origin and evolution of earth.
- The learners can understand various relief features of the earth.
- The course describes various processes of dynamic earth.

UNIT – I THE EARTH:

Origin of the Earth - modern theories – Earth's orbital parameters - internal and external heat engines of the Earth - internal processes of earth – earth's internal structure – mantle and core - Earth's crust - isostasy – Earth's magnetism.

UNIT – II ROCKS:

Igneous - sedimentary - metamorphic (origin and Types)- rock cycle.

UNIT – III THE DYNAMIC PLANET:

Continental drift – Wegener's continental drift theory – palaeomagnitism – sea floor spreading – plates and plate motion – diverging, converging and transforming plate boundaries.

UNIT – IV EARTH'S SURFACE RELIEF:

Earth's topography - orders of relief - Earth's hypsometry – stress and strain – fold – fault – orogenesis - features of the sea floor.

UNIT – V EARTHQUAKES AND VOLCANISM:

Earthquakes: causes – seismic waves –measurement of earthquakes – effects – tsunamis – world distribution – plate tectonics and earthquakes – volcanism: types – ejecting materials - distribution of volcanoes – intrusive bodies – types.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Recent Earthquakes in India and World –A global view of Tsunami-Volcanoes

REFERENCES:

1. K.S iddhatha (2014) The Earth Dynamic Surface, Kisalaya Publication, New Delhi
2. Strahler, A. H. and Strahler, A N., (2001) Modern Physical Geography (4th Edition), John Wiley and Sons, Inc., New York.
3. Bartholomeo, R. B., (1984) Earth Science, Heath and Co., Toronto.
4. Dury, G. H., (1980) The Face of the Earth, London: Penguins.
5. Ernst, W. G., (Ed.) (2000) Earth Systems: Process and Issues, Cambridge University Press, Cambridge.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- To understand the theories on evolution of earth and nature.
- Obtain knowledge about the atmosphere, hydrosphere, and lithosphere, including their interaction and interrelationships.
- Acquire knowledge on the direct effect of life on the Earth system directly such as climate change, global warming, usage of natural resources etc.
- Investigate climate changes in the past and advance prediction models, scenarios related with future climate and to develop strategy with sudden climate changes, natural disasters.
- Explore how these interactions change with time through our study of earth system history.

First Year **CORE PRACTICAL I** **Semester I**

MAP SCALE AND RELIEF FEATURE REPRESENTATION

Code: **(Practical)** **Credit: 4**

COURSE OBJECTIVES:

- Understanding the methods of construction of map scales.
- Acquiring knowledge on map enlargement and reduction and depiction of landforms by contours.
- Understanding the techniques of climatic diagrams.

Ex. 01: Types of Scale
Ex. 02: Map Scale Determination and Construction
Ex. 03: Map Scale Conversion
Ex. 04: Linear and Areal Measurements on Maps
Ex. 05: Map Reduction and Enlargement
Ex. 06: Determination of Directions and Bearings
Ex. 07: Methods of Relief Representation
Ex. 08: Representation of Elevation Profiles
Ex. 09: Methods of Average Slope Determination
Ex. 10: Gradient and Slope Calculation
Ex. 11: Representing Hypsometric Curves
Ex. 12: Representation of Relief on a Block Diagram

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

3D Terrain representation – Sub-marine topography – Digital Elevation Model

REFERENCES:

1. Singh, R.L, (1991) Elements of Practical Geography – Kalyani Publishers, New Delhi.
2. Monk house and Willkinson (1976) Maps and Diagrams, Metuhuen & Co, London.
3. Gobal Singh Map Work and Practical Geography, Vikas Publishing House Pvt Ltd, New Delhi.
4. Worthington, B.D.R. and Robert Gent (1975): Techniques in Map Analysis, Ebenzer Baylis and Sons, USA.
5. Anson, R.W. (Ed.) (1984) Basic Cartography for Students and Technicians, Volume 2, International Cartograhic Association, Elsevier Applied Science Publishers, London.
6. Dorling, D. and David Fairbairn (1997), Mapping: Map of representing the world, Addisson Wesley Longman Ltd., U.K.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Draw and compute map scales of different kinds.
- Measure the distance, areas and find the directions on maps.
- Reduce and enlarge maps of different scales manually to the required size.
- Depict landforms by contours.
- Represent the data related to climate by means of graphs and diagrams.

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First year **CORE COURSE II** **Semester II**

GEOMORPHOLOGY

Code: **(Theory)** **Credit: 5**

COURSE OBJECTIVES:

- To introduce the basic concepts geomorphology to the students of geography
- To understand the origin of landforms, Weathering, Erosion and Depositional
- To know the applications of geomorphology is helpful in different fields like civil, mineral and coastal departments.

UNIT – I BASICS:

Meaning, nature, Scope, and development – Basic Concepts, Branches in geomorphology – geological time scale – Endogenic process: Diastrophism and volcanism

UNIT – II EXOGENIC PROCESS:

Weathering –Physical – Chemical – biological (landforms) - Mass Wasting, Drainage: Drainage Patterns - Consequent Drainage, Obsequent Drainage, Antecedent Drainage, Superimposed Drainage – Lakes: Origin – Types

UNIT – III CONCEPTS:

Morphogenetic regions – Concept of cycle of erosion: Davis, Penck - Peneplain and Pediplain –Slope: definition - elements.

UNIT – IV LANDFORMS:

Fluvial, Karst, Glacial (Erosion and Depositional).

UNIT – V LANDFORMS:

Aeolian and Coastal landforms (Erosion and Depositional).

UNIT – VI CURRENT CONTOURS: (For continuous internal assessment only):

Landform's analysis-aerial and satellite data interpretation, Drainage basin morphometric and slope mapping, integrated approach of land and water resource management.

REFERENCES:

1. Dayal, P., (1990). A Text book Geomorphology, Shukla Book Depot, Patna, India.
2. MajidHussain. ed., (1994). Geomorphology, Perspective in Physical Geography series, Anmol Publications Pvt. Ltd., New Delhi.
3. Mukerjee, P.K., (1986). A Text of Geology, The World Press (P) limited, Calcutta.

4. Pitty,A.F., (1982). The Nature of Geomorphology, Methuen and Co. Ltd., London.
5. Rice, R.J., (1986). Fundamentals of Geomorphology, Longman, London.
6. Small, R.J., (1978). The Study of Landforms: A Text book of Geomorphology, Cambridge University Press, New York.
7. Thornbury, W.D., (1954). Principles of Geomorphology, John Wiley and sons, Inc., New York.
8. Worcester, P.G., (1948). A Textbook of Geomorphology, Von Nostrand Reinhold, Company, New York

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Describe the morphology of the landscape and related processes in areas influenced by fluvial, glacial, periglacial, aeolian, coastal, and arid systems.
- Describe major scientific ideas and theories about the development of the landscape.
- Critically analyse geomorphological issues in a scientific context at local, regional and global scales.
- Analyze simple geomorphological data from topographic maps as well as aerial photographS
- Identify the major landforms on the Earth's surface and interpret the processes responsible for their genesis.

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First Year **CORE PRACTICAL II** **Semester II**

TECHNIQUES OF TERRAIN ANALYSIS AND MAPPING

Code: **(Practical)** **Credit: 4**

COURSE OBJECTIVES:

- Students know about different type of top sheet and its character
- The practical course inculcates critical knowledge of cartographical principles and techniques in map interpretation to the students.
- Students learn to extract features from the top sheet

Ex. 01: Appreciation of SOI Top sheet
Ex. 02: Appreciation of NATMO Maps
Ex. 03: Appreciation of Census Atlas of India
Ex. 04: Appreciation of NBSS & LUP Maps
Ex. 05: Appreciation of Resource Atlas of Tamil Nadu
Ex. 06: Appreciation of GSI Maps

Interpretation for Physical / Cultural features

Ex. 07: Interpretation of SOI 1:2, 50,000 Sheets
Ex. 08: Interpretation of SOI 1" to 1 Mile Sheets
Ex. 09: Interpretation of SOI 1:50,000 Sheets
Ex. 10: Interpretation of SOI 1:25,000 Sheets
Ex. 11: Interpretation of SOI OSM Sheets
Ex. 12: Interpretation of USGS Topographic Maps

UNIT – VI CURRENT CONTOURS: (For continuous internal assessment only):

Advanced Remote Sensing and GIS software's, ArcGIS Pro, AutoCAD Map 3D

REFERENCES:

1. Monkhouse, F.J., and Wilkinson, H.R. (1976): Maps and Diagrams, Metheun & Co., London.
2. Worthington, B.D.R. and Robert Gent (1975): Techniques in Map Analysis, Ebenzer Baylis and Sons, USA.
3. Anson, R.W. (Ed.) (1984) Basic Cartography for Students and Technicians, Volume 2, International Cartograhic Association, Elsevier Applied Science Publishers, London.
4. Dorling, D. and David Fairbairn (1997), Mapping: Map of representing the world, Addisson Wesley Longman Ltd., U.K.
5. Kang-tsung Chang (2002) Introduction to Geographical Information Systems, Tata McGraw-Hill Publishing Company Limited, New Delhi.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the basics of mapping, methods and techniques of mapping.
- Are exposed to real data and software's, such as Survey of India Top sheets and ARCGIS software's.
- Get expertise in Geo-database creation.
- Will understand the importance of Top sheets and can interpret all features that are present it without any assistance.
- Various analysis such as slope analysis, Drainage basin analysis, rain fall variability etc which are major part of geographical study are studied practically, which enhances them to next level of study.

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Second Year **CORE COURSE III** **Semester III**

CLIMATOLOGY AND OCEANOGRAPHY

Code: **(Theory)** **Credit: 5**

COURSE OBJECTIVES:

- Understand the elements of weather and climate and its impacts at different scales.
- Comprehend the climatic aspects and its bearing on planet earth.
- Understand the oceanic process and availability of resources.

UNIT – I Atmospheric Composition and Structure:

Variation with Altitude, Latitude and Season; 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; Atmospheric Moisture: Evaporation, Humidity, Condensation, Fog and Clouds, Precipitation Types, Stability and Instability; Climatic Regions.

UNIT – III Cyclones:

Tropical Cyclones, Temperate Cyclones, Monsoon - Origin and Mechanism, El Nino.

UNIT – IV Ocean Floor Topography and Oceanic water Movements:

Waves, Currents and Tides.

UNIT – V Ocean Salinity and Temperature:

Distribution and Determinants; Coral Reefs and Marine Deposits and Ocean Resources

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Techniques and invention in the climate Parameters– Sea level Change– Climate change Protocols – Ocean Studies

REFERENCES:

1. Anikouchine, W. A. and Sternberg, R. W., (1973): The World Oceans: An Introduction to Oceanography, Prentice-Hall.
2. Barry, R. G., and Chorley, R. J., (2009): Atmosphere, Weather and Climate(9th Edition), Routledge, New York.
3. Bhutani, S., (2000): Our Atmosphere, Kalyani Publishers, Ludhina. Critchfield, H. J., (1987): General Climatology, Prentice-Hall of India, New Delhi
4. Gupta, L.S., (2000): Jalvayu Vigyan (Hindi), Madhyam Karyanvay Nidishalya, Delhi, Vishwa Vidhyalaya, Delhi

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand about the composition and structure of atmosphere.
- Discuss about the pressure system and its implications.
- Describe the features of cyclone and quantify the nature of cyclone.
- Familiarize about the ocean submarine topography, waves, currents and tides.
- Analyse and compare the temperature distribution and justify the importance of ocean resources.

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Second Year **CORE PRACTICAL III** **Semester III**

REPRESENTATION OF CLIMATIC DIAGRAMS

Code: **(Practical)** **Credit: 4**

COUSE OBJECTIVES:

- Students know about different types of Climatic map sources
- The practical course imparts knowledge of climatic and weather map interpretation
- Students learn to infer knowledge from the maps.

Ex. 01: Climate and Weather Map signs and symbols
Ex. 02: Interpreting Climate and Weather maps
Ex. 03: Representation of Climatic Data by Isopleths
Ex. 04: Climatic Line Graphs
Ex. 05: Columnar Diagrams
Ex. 06: Rainfall Dispersion Diagrams
Ex. 07: Wind-rose Diagrams: Simple and compound
Ex. 08: Climographs
Ex. 09: Synoptic Weather Charts
Ex. 10: Cyclone Tracking and Mapping

CURRENT CONTOURS (For continuous internal assessment only):

Online Data Sources, Daily weather reports from Google, Amazon widgets.

REFERENCES:

1. Monk House, F.J. and Wilkinson, H.R. (1973) Maps and Diagrams, Methuen & Co Ltd, London.
2. Saha, P. and Basu, P. (2014) Advanced Practical Geography, Books and Allied Ltd., Kolkatta.
3. Singh, R.L. and Singh, R. P. B. (2009) Elements of Practical Geography, Kalyani Publishers, New Delhi.
4. Gopal Singh (1998) Map Work and Practical Geography (4th Edition), Vikas Publishing House, Ahmedabad.
5. Zulfequar Ahmad Khan, M.D., (1998) Text book of Practical Geography, Concept Publishing Company, New Delhi.
6. King, C. A.M (1966) Techniques in Geomorphology, Edward Arnold, London

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- The students would know about plotting physical data.
- The course creates consciousness about understanding physical and climate data.
- The learner can have confident in interpreting topographic and physiographic maps.
- It provides confident in understanding the weather reports.
- The student would learn various drawing skills to represent the terrain.

Second Year **NON MAJOR ELECTIVE I** **Semester III**

DISASTER STUDIES

Code: **(Theory)** **Credit: 2**

COURSE OBJECTIVES:

- To understand the concept, nature and manmade disasters.
- To learn the causes and effects of global warming and the warning system for ocean related natural disasters.

UNIT – I DISASTER:

Concept, Types, Significance and Scope.

UNIT – II NATURAL DISASTERS:

Volcanoes, Earthquake, Tsunami, Landslide, Flood, Drought and Cyclones - Causes and Consequences.

UNIT – III MANMADE DISASTERS:

Terrorism - Fire - Accidents - Explosion - Stampede: Causes and effects.

UNIT – IV CLIMATE CHANGE:

Vulnerability - Global Warming and Green House Effect, Sea Level Rise and its impact on coastal areas.

UNIT – V WARNING SYSTEM:

Natural Hazards - Cyclone, Tsunami and El-Nino.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Hyogo Framework for Action (HFA), Tsunami Warning System (TWS),Oil Spil, UNFCCC and Cyclone Warning Centres (CWC)

REFERENCES:

1. Savindra Sing (1991), Environmental Geography, Prayag Pustak Bhavan, Allahabad.
2. Das, R.R. (2006), Environmental Studies, Pragon International Publishers, New Delhi.
3. Singh, R.P. (2006), Natural Hazards and Disaster Management, Rawat Publications, Jaipur.
4. Brig Khanna. B.K. & Nina Khanna (2011), Disasters, New India Publishing company, New Delhi.
5. Susan.L. & Cutter (1999), Environmental Ricks and Hazards, Prentice Hall of India, New Delhi.
6. Saxena. H.M. (2007), Environmental Geography, Rawat Publications, Jaipur.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the concept and types of disasters
- Analyse the causes and effects of natural disasters
- Become familiar with the nature of manmade disasters, its causes and consequences.
- Learn the causes of global warming and its impacts.
- Gain knowledge on warning system for ocean related disasters in India.

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Second Year	**CORE COURSE IV CARTOGRAPHY**	**Semester IV**
Code:	**(Theory)**	**Credit: 5**

COURSE OBJECTIVES:

- The course would discuss the basic concepts of Map and scale.
- The concepts of Spherical earth and various types of Projection systems are taught.
- Students would acquire the knowledge about the usage of conventional signs and symbols to interpret the various topographic maps.

UNIT – I MAP AND SCALE:

Nature and scope of cartography – map - types of maps - map scale: plain linear, statement, diagonal and comparative, representative fraction.

UNIT – II GEODESY:

Basic geodesy – spherical, ellipsoidal and geoidal earth - general principles of map projections – classification – cylindrical, conical and zenithal projections – coordinate systems - UTM – choice of projections.

UNIT – III MAP COMPILATION AND LAYOUT:

Enlargement and reduction – compilation - selection of details - generalization - symbolization – map design and layout - lettering - lettering methods - positioning of letters.

UNIT – IV MAP PRODUCTION AND REPRODUCTION:

Mechanics of map construction - map reproduction methods: tradition and modern.

UNIT – V MAP READING:

Conventional signs and Symbols - content of SOI, OS and US sheets – Interpretation of SOI topographical maps, atlases and thematic maps.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

GIS and cartography- Mobile and Virtual mapping- Open Street Maps.

REFERENCES:

1. Robinson, A.H. et al. (2009) Elements of Cartography, John Wiley & Sons, U.S.A.
2. Misra, R.P. and Ramesh, A. (1986) Fundamentals of Cartography, Concept Publishing Company, New Delhi.
3. Kraak M.J. (2010) Cartography: Visualization of Geospatial Data (3rd edition), Pearson Education Ltd., London.

4. Monkhouse, F.J. and Wilkinson, H.R. (1994) Maps and Diagrams, Methuen, London.
5. Sarkar A. K. (1997) Practical Geography: A Systematic Approach, Oriental Longman, Calcutta.
6. Singh, R.L. and Dutt, P.K. (1979) Elements of Practical Geography, Kalyani Publishers, New Delhi
7. Steers, J.A. (1970) An Introduction to the Study of Map Projections, University of London Press, London.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- The student would familiarize concepts of scale and projection system.
- The student would understand cartography as a science of communication.
- The learner will understand the use of projection system in specific maps.
- The course familiarizes the usage of conventional signs and symbols.
- The students will be able to create new maps through collecting different data.

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Second Year **CORE PRACTICAL IV** **Semester IV**

MAPPING, ANALYSIS OF QUALITATIVE & QUANTITATIVE DATA

Code: **(Practical)** **Credit: 4**

COURSE OBJECTIVES:

- To impart skill in extracting marginal information of aerial and satellite images
- To accurately extract various physical and cultural features.
- To integrate and validate the features with other sources.

Ex. 01: Marginal Information of Aerial Photographs
Ex. 02: Marginal Information of Satellite Images
Ex. 03: Scale Measurement from Aerial Photographs
Ex. 04: Mapping from Aerial Photographs - Geomorphology
Ex. 05: Mapping from Aerial Photographs - Drainage
Ex. 06: Mapping from Aerial Photographs – Land use / Land cover
Ex. 07: Mapping from Aerial Photographs – Transport Network
Ex. 08: Mapping from Satellite Images – Geomorphology
Ex. 09: Mapping from Satellite Images – Land use/ Land cover
Ex. 10: Mapping from Satellite Images – Water Resources
Ex. 11: Mapping from Satellite Images – Forest resources
Ex. 12: Comparison of Topographic Sheets, Aerial Photographs and Satellite images

CURRENT CONTOURS (For continuous internal assessment only):

Earth Explorer, Copernicus, SNAP

REFERENCES:

1. Lillisand. T.M., and Kiefer, P.W., (1998). Remote Sensing and Image Interpretation, John Wiley & Sons, New York.
2. Jensen, J. R., (2007). Remote Sensing of the Environment: An Earth Resource Perspective, 2nd Edition, Prentice-Hall Inc., New Jersey.
3. Singh, R.L, (1991) Elements of Practical Geography – Kalyani Publishers, New Delhi.
4. Monkhouse, F.J., and Wilkinson, H.R. (1976): Maps and Diagrams, Metheun & Co., London.
5. Worthington, B.D.R. and Robert Gent (1975): Techniques in Map Analysis, Ebenzer Baylis and Sons, USA.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the basics of mapping, methods and techniques of mapping.
- Students can efficiently map physiographic and other resources from the aerial and satellite images
- Get expertise in interpreting the aerial and satellite images
- Will be able to correlate and compare various data sources and appreciate them
- Various analysis such as slope analysis, Drainage basin analysis, rain fall variability etc which are major part of geographical study are studied practically, which enhances them to next level of study.

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Second Year **NON MAJOR ELECTIVE II** **Semester IV**

GEOGRAPHY OF TAMIL NADU

Code: **(Theory)** **Credit: 2**

COURSE OBJECTIVES:

- Introduce the location, extent and physical aspects of Tamil Nadu.
- The course content gives a lead to understand the resource distribution.
- The course provides overall idea about various transport networks.

UNIT - I:

Location and Extend: Administrative units – Major relief features Major rivers – Climate: temperature, Seasonal and Annual rainfall distribution, Soil: types and their distribution.

UNIT - II:

Forest, Livestock and Fisheries: Types and distribution, forest products, Livestock: cattle, sheep, dairying, and fisheries-inland and deep-sea fishing.

UNIT - III:

Irrigation and Agriculture Resources: types and distribution – canal, tank and well irrigation, Agriculture: distribution and production of rice, cotton, sugarcane, and rain fed crops, oil seeds, tea, and coffee.

UNIT - IV:

Mineral and Industrial Resources: General distribution and production. Power resources: Hydroelectric, thermal, atomic and wind power, Industries: distribution and production of – cement, sugar, cotton, automobile and paper, Indus trial corridors.

UNIT - V:

Transport: Development and distribution of roads, railways, air, and sea transportation - Important ports, Population – growth and distribution of rural and urban population.

UNIT-VI: CURRENT CONTOURS (For continuous internal assessment only):

River Disputes in Tamil Nadu– Industrial hub activities– Latest Schemes in people's welfare – GIS/GPS in Transport

EFERENCES:

1. Kumaraswamy, S.V. (2014). Geography of Tamil Nadu (Tamil Edition), Sakthi Abirami Pathipagam, Coimbatore.
2. SHBoTN (2004). Statistical Hand Book of Tamil Nadu. Department of Economics and Statistics, Government of Tamil Nadu, Chennai.

3. TNEA (2014). Tamil Nadu – An Economic Appraisal 2011-12 to 2013-14. Department of Evaluation and Applied Research, Chennai.
4. SCRoTN (2004). Season and Crop Report of Tamil Nadu for the Agricultural Year 2003-2004. Department of Economics and Statistics, Chennai.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the location, extent and climatic characteristics of Tamil Nadu.
- Explain the forest, livestock and fishery distribution.
- Strongly demonstrate the link between irrigation resources and agriculture distribution.
- Describe various mineral resources and industrial regions.
- Discuss about the status of different transport system, rural and urban population.

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Third Year	**CORE COURSE V HUMAN GEOGRAPHY**	**Semester V**
Code:	**(Theory)**	**Credit: 5**

COURSE OBJECTIVES:

- To understand the concepts of schools of Human Geography.
- To be able to recognize the human races and their distribution.
- To studying the settlement pattern, population distribution, human migration and impacts of manOn Environment.

UNIT - I:

Human Geography - Nature and Scope; Historical perspectives, Schools of Human Geography: Determinism - Possibilism - Neo - Determinism - Social Determinism

UNIT - II:

World Human Races and Distribution; major tribes: Eskimos, pygmies. Bushman, Gonds and Irulas. Mosaic of Culture; Classification and spatial distribution of languages – Religion.

UNIT - III:

World Population: Growth - distribution and density - Controlling factors - Migration: Push and Pull factors - Types - Effects of Migration-Population distribution in India.

UNIT - IV:

World economic activities: world pattern of primary, secondary, and tertiary activities - special economic zones - free trade zone - export processing zone - industrial park - free port zones - bonded logistics parts.

UNIT - V:

Impact of man on Environment: Deforestation - Soil Erosion - Urbanization - Climatechange - Global warming - Ozone depletion - Acid rain.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Global – Pandemic – migration – Climate change conference – Smart cities.

REFERENCES:

1. Peripillous A.V. (1997) Human Geography, Longman Group Limited,
2. Chandra, R.C: A Geography of Population Concepts., determine and Patterns.
3. Singh., R.L. Readings in Rural Settlements and Land Use, Hutchinson, London, 1970.

4. Meyer, H.M and Kohn, C.F. Readings in Urban Geography Chicago Printing Press, Chicago.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Develop the historical perspectives and understand the concept of schools of human geography
- Acquire knowledge on the human races, nature, distribution and their culture.
- Possess knowledge on the distribution of population, migration, and its types, controlling factors and causes and effects.
- Classify the economic activities and learn the concept of special economic zones of different categories.
- Analyse the impact of man on environment associated with soil erosion, urbanisation, global warming, ozone depletion and acid rain.

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Third Year	**CORE COURSE VI BIO GEOGRAPHY**	**Semester V**
Code:	**(Theory)**	**Credit: 5**

COURSE OBJECTIVES:

- To be able to analyse the distribution of flora and fauna in relation to different factors.
- To study the causes and effects of extinction of plants and animals.
- To acquire knowledge on the nature of different biomes and ecological regions of India.

UNIT - I:

Bio geography: Definition, Scope, and significance- Evolution of life on the Earth: Origin of Fauna and Flora - Plants and animal evolution throughout the geological times- distribution of plant life on the earth.

UNIT - II:

Basic Ecological Principles - Bio- energy cycle in the terrestrial eco-system – Trophic level and food chain; Concepts of biome, Eco-tone and community.

UNIT - III:

Plant and Animal Geography: Plant Geography- origin and evolution, classification, distribution of forests in the world, floral bio geographical regions. Animal Geography: origin and evolution, classification, distribution of animals in the world, fauna bio geographical regions, animal extinction and conservation.

UNIT - IV:

World Major Biomes: Equatorial biome - Tropical forest - Temperate grass land -Tropical desert and Tropical grasslands.

Unit - V:

Study of Ecological regions of Himalayas and Western Ghats - Problems, conservation and management measures.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Fossils, Biomass, Endangered Species, Lungs of the earth-Threat and BSI

REFERENCES:

1. Robionson, H. Bio geography: ELBS (1982), Mc Donald and Evana, London.
2. Allce W.C and Sehmidt, K.P. (1951), Ecological Animal Geography, John Wiley & Sons, Inc. New York.
3. Barry C (1977), Bio geography-An Ecological and Evolutionary Approach, Cod Bloack Well, Oxford.

4. Hardy M. E., (2016), The Geography of Plants, Leopold Classic Library, US.
5. Peter A. Furley and Waleter W. Newey (1990), Geography of the Biosphere, Ross Publishing, Inc. USA.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Trace the origin of flora and fauna and synthesize their evolutionary stages.
- Understand the cyclic nature of bio energy.
- Analyse the problems caused by extinction of plants and animals and learn the conservation methods.
- Gain knowledge on the location and characteristics of the world major biomes.
- Perceive the nature of ecological regions, its identification and the conservation measures adopted to safeguard the ecosystem over Himalayas and Western Ghats.

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Third Year	CORE COURSE VII GEOGRAPHY OF INDIA	Semester V
Code:	(Theory)	Credit: 5

COURSE OBJECTIVES:

- To acquire knowledge on the relief, climate, and drainage of India.
- To be able to assess the soil, forest, agriculture, minerals, and industrial resources of India.
- To study the population distribution, the nature of trade and different modes of transport of India.

UNIT - I:

India: Geographical location and extent - India as a Sub-Continent - Major Physical divisions - Drainage Systems, major Multipurpose River valley projects, Climate: Controlling factors – seasons.

UNIT - II:

Soil: Types and Distribution – Soil erosion and conservation - Natural Vegetation: Forest types and distribution – Forest products and uses.

UNIT - III:

Agriculture: Problems - Cropping seasons - Farming types - Green Revolution –Food crops - Rice, Wheat; Commercial crops: Sugarcane, Cotton, Jute; Plantation crops: Tea,Coffee and Rubber.

UNIT - IV:

Mineral resources - Iron ore, Manganese, Bauxite, Coal and Oil. Power resources - Hydel, Thermal and Atomic; Industries - Cotton textiles, Iron and Steel, Shipbuilding and Automobiles.

UNIT - V:

Population - Distribution and Density. Population Policy, Transport: Roadways - Railways - Waterways - Air ways - Trade: Products items and Volume.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Make in India.

REFERENCES:

1. Gopal Sign (1970) - Geography of India, At marani, New Delhi 1970.
2. Aranachalam.B Economic Geography of India-Bombay.
3. T.C. Sharma, O. Coutinho, (1990), Economic & Commercial Geography of India, Vikas, New Delhi.

4. Singh. R.L. (ed) (1971), India a Regional Geography, NGSI, Varanasi – 5.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the locational extent, major relief features, the drainage system and climatic characteristics of India.
- Gain knowledge on the types, characteristics and distribution of soil and natural vegetation in India.
- Analyse the characteristics of agriculture, cropping seasons and the distribution of major crops.
- Assess the mineral wealth, power resources and the development of select industries in India.
- Evaluate the human resource, status of transport and the volume of international trade of India.

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Third Year **CORE PRACTICAL V** **Semester V**

TOPOGRAPHICAL MAP ANALYSIS

Code: **(Practical)** **Credit: 4**

COURSE OBJECTIVES:

- Students know about different type of top sheet and its character
- The practical course inculcates critical knowledge of cartographical principles and techniques in map interpretation to the students.
- Students learn to perform few empirical analysis.

Ex. 01: Map Appreciation and Interpretation - Thematic and Topographic Atlas
Ex. 02: Map Appreciation and Interpretation - Climate Atlas
Ex. 03: Mapping and Analyzing Physiographic Features (SOI Toposheets)
Ex. 04: Mapping and Analyzing Morphometric Features (SOI Toposheets)
Ex. 05: Mapping Cultural features (SOI Toposheets)
Ex. 06: Mapping Population Data
Ex. 07: Mapping Socio-Economic Data
Ex. 08: Mapping Concentration
Ex. 09: Mapping Diversification
Ex. 10: Mapping and Analyzing Transport networks
Ex. 11: Map Scanning and Digitalization
Ex. 12: Open Data Sources

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Open Street map, Google Earth, Bhuvan.

REFERENCES:

1. Gupta, K.K. and Tyagi, V.C. (1992) Working with Maps, Survey of India, Dehradun.
2. Gopal Singh (1998) Map Work and Practical Geography (4th Edition), Vikas Publishing House, Ahmedabad.
3. Singh, R.L. and Singh, R. P. B. (2009) Elements of Practical Geography, Kalyani Publishers, New Delhi.
4. Zulfequar Ahmad Khan, M.D., (1998) Text book of Practical Geography, Concept Publishing Company, New Delhi.
5. King, C. A.M (1966) Techniques in Geomorphology, Edward Arnold, London
6. Saha, P. and Basu, P. (2014) Advanced Practical Geography, Books and Allied Ltd., Kolkatta.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- The students learn about map and its types.
- Lab to field - checking the areas
- Identify each map characters and its features
- Students taking challenges to identify each place and its environment.
- Students gathering knowledge related with GSI map.

Third Year **MAJOR BASED ELECTIVE I** **Semester V**

1. POPULATION GEOGRAPHY

Code: **(Theory)** **Credit: 4**

COURSE OBJECTIVES:

- To study of the ways in which spatial variations in the distribution, composition, migration and growth of populations are related to the nature of places.
- To study the characteristics of population distribution that change in a spatial context
- To analyze the population statistics, the student will explain the past trends and accurately predict the future

UNIT – I POPULATION GEOGRAPHY:

Nature, Scope, Approaches-systematic and behavioural, Methodology and methodological problems, Techniques, Population studies and demography, Population of India.

UNIT – II SOURCES OF POPULATION DATA:

Census, Sample Survey, Sources of Demographic data in India-unique identity, national population register and census of India; Factors affecting population-distribution and density-physical, socio-cultural, demographic, and physical and social stress; Population Growth - Projections

UNIT – III COMPOSITION OF POPULATION:

Age and sex-world pattern of sex ratio, sex ratio in India, changes in sex ratio of Indian population, age composition, age groups, trend in age structure of various countries, Occupational structure of population with special reference to India-primary, secondary, and tertiary activities

UNIT – IV MIGRATION:

Types: internal and international; determinants consequences, Lee migration theory, migration in India, Population theories-Malthus, Boserup and Demographic transition theories, Population and resources-optimum, over and under population.

UNIT – V POPULATION AND ENVIRONMENT:

Population growth and human wellbeing, population growth and use and abuse of resources, impact of population growth on environment; **Population and development planning**-manpower planning, planning for education needs, housing needs, health service needs and infrastructure, **Population policies**-population policy for developed and developing countries, pronatalist and anticatalyst countries, population policy in India.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

- Gender inequality
- migration issues
- women empowerment

REFERENCES:

1. Barrett H. R., (1995): Population Geography, Oliver and Boyd.
2. Bhende A. and Kanitkar T., (2000): Principles of Population Studies, Himalaya Publishing House.
3. Chandna, R.C., (2010): Population Geography, Kalyani Publisher.
4. Clarke J. I., (1965): Population Geography, Pergamon Press, Oxford.
5. Daniel, P.A. and Hopkinson, M.F., (1989) The Geography of Settlement, Oliver & Boyd.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Examine the growth, age-sex structure and spatial distribution of populations.
- Describe and compare levels and age patterns in demographic processes, including marriage, fertility, mortality and migration.
- Learn to collect sources of demographic data, the assessment of data quality, standardization methods, demographic accounting, and population pyramids.
- Understanding demographic concepts and measures, their application to data, and demographic interpretation.
- Explain demographic changes in the world and their major determinants.

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Third Year **MAJOR BASED ELECTIVE I** **Semester V**

2. HEALTH AND WELLBEING

Code: **(Theory)** **Credit: 4**

COURSE OBJECTIVES:

Health is one of the basic factors to determine the quality of life. The study provides knowledge to the students about the various diseases and effects caused to the human communities.

UNIT - I:

Nature, scope, and development of Medical Geography -Traditional and contemporary approaches -Concept of Health and Diseases -Reproductive Health -Climate and Health --Human diseases -Classification -Infectious, Degenerative, and chronic, inherited, and genetic diseases.

UNIT - II:

Nutrition -Deficiency related diseases -Geographical perspectives of Communicable and Non-communicable diseases -Epidemic, Endemic and Pandemic nature of diseases -Major Tropical diseases -Malaria, Filariasis and Leprosy -Cancer and Heart attack -Social diseases -HIV / AIDS, STD.

UNIT - III:

Disease ecology -Determinants of diseases -Interplay of nvironmental, cultural, socio-economic and ecological factors -Gender and health -Diseases of the rich and poor -Disease diffusion -Concepts -Dynamics of major diseases -Migration and Disease -Travel Medicine

UNIT - IV:

Medical Cartography -Measurement techniques of diseases -Disease mapping techniques at macro, meso and micro levels -Medical statistics -Epidemiological methods in disease measurement and analysis -Measurement of Morbidity and Mortality

UNIT - V:

Health care delivery system -Hierarchy of medical services -Planning for manpower, infrastructure, and service facilities of health care -Rural and urban disparities -Health education -Improved Health care delivery system -GIS in Public Health surveillance and monitoring -Environmental and Health data management

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Need for medical Geography –Causes of Genetic diseases –Availability of medical management system –Need for Health Education –Importance of Health Monitoring

REFERENCES:

1. Books for References Textbook of Social and Preventive Medicine -Park, 19th edition, Bhandi, 2007
2. Geography and Health -Hussain, A, Mahaveer & Sons, New Delhi, 2007.
3. Geography of Health: A Treatise on Geography of Life and Death in India -Misra, R.P., Concept Publishing Company, 2007.
4. Tribal Health and Medicines -Kalla & Joshi, Concept Publishing Company, 2004.
5. Health and Diseases: Dynamics and Dimensions -Surendra Singh & Misra, New Royanook Company, 2000.
6. Text Book of Community Medicine -Kulkarni et al, Vora Medical Publication, 1998. Social and Preventive Medicine -Saxena, R.R., C.B.S. Publishers 1990.
7. Medical Geography: Progress and Prospects -Pacione, Michael Croom, 1986 Geographical Aspects of Health and Disease in India -Rais Akthar and Learmonth Concept, 1985
8. Applied Medical Geography -Pyle, Gerald P, Winston and sons, 1979
9. The Ecology of Human diseases -Maya M.D. Publications 1979
10. Medical Geography:' Techniques and Field studies -McGlashan, N.D. Methuen, 1972

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- To provide a critical understanding of key concepts related to medical and health geography.
- To examine the role of societal structures and human behaviour in creating and sustaining health inequalities and differences in access to health care.
- To provide a set of analytical skills to evaluate the demographic, social, economic and political relationships that explains health inequalities and differences in access to health care.
- Learn approaches to measure health outcomes for infectious and chronic diseases
- Identify assumptions of alternative study designs of health outcome relationships with environment
- Characterize methods to infer causal relationships between spatial variability in environment and health outcomes.

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Third Year **SKILL BASED ELECTIVE I** **Semester V**

DISASTER STUDIES

Code: **(Theory)** **Credit: 2**

COURSE OBJECTIVES:

- To understand the concept, nature and manmade disasters.
- To learn the causes and effects of global warming and the warning system for ocean related natural disasters.
- To make the students aware the patterns and nature of disaster

UNIT – I DISASTER:

Concept, Types, Significance and Scope-Hazard, Vulnerability, Disaster cycle.

UNIT – II NATURAL DISASTERS:

Volcanoes, Earthquake, Tsunami, Landslide, Flood, Drought and Cyclones - Causes and Consequences- Warning systems.

UNIT – III MANMADE DISASTERS:

Terrorism - Fire - Accidents - Explosion - Stampede: Causes and effects.

UNIT – IV CLIMATE CHANGE:

Vulnerability - Global Warming and Green House Effect, Sea Level Rise and its impact on coastal areas.

UNIT – V WARNING SYSTEM:

Disaster Management-National Disaster Management Authority(NIDM), State Disaster Management Authority(SDMA)

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Role of Remote Sensing and GIS in Disaster management-Recent volcanic eruption and earthquakes.

EFERENCES:

1. Savindra Sing (1991), Environmental Geography, Prayag Pustak Bhavan, Allahabad.
2. Das, R.R. (2006), Environmental Studies, Pragon International Publishers, New Delhi.
3. Singh, R.P. (2006), Natural Hazards and Disaster Management, Rawat Publications, Jaipur.
4. Brig Khanna. B.K. & Nina Khanna (2011), Disasters, New India Publishing company, New Delhi.
5. Susan.L. & Cutter (1999), Environmental Ricks and Hazards, Prentice Hall of India, New Delhi.

6. Saxena. H.M. (2007), Environmental Geography, Rawat Publications, Jaipur.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the concept and types of disasters
- Analyse the causes and effects of natural disasters
- Familiar with the consequences nature of manmade disasters.
- Debate the causes of global warming and its impacts.
- Elaborate the role of central and state government in Disaster Management.

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Third Year **CORE COURSE VIII** **Semester VI**

SETTLEMENT GEOGRAPHY

Code: **(Theory)** **Credit: 5**

COURSE OBJECTIVES:

- The courses describe the nature and scope of settlement geography.
- To understand the living and working environments of people in particular urban and rural areas.
- To aware the policies and planning related to settlements

UNIT – I SETTLEMENT GEOGRAPHY:

Nature, Scope, significance, and approaches to study settlement geography-Theories of evolution of settlements-Geographical factors affecting growth of settlement distribution. Types of Settlement: Rural and Urban Rural-Urban Dichotomy and continuum.

UNIT – II RURAL SETTLEMENTS:

Definition-Site, location, types and pattern-morphology of rural settlement-Rural house types and architectural style in different environment.

UNIT – III URBAN SETTLEMENTS:

Definition-Origin of cities: Ancient and Medieval- Industrial growth and expansion- Functional classification of urban centres: Harris and Nelson-Functional classification of Indian cities:Ashok Mitra-Slums.

UNIT – IV SETTLEMENT THEORY:

Rural service centre-Central Place theory (Christaller)-Theory of Losch and its applications.

UNIT – V SETTLEMENT PLANNING:

Policies and issues of Settlements and Planning

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

Smart Cities, Pradhan Mandiri Awas Yojana, Heritage City development, Urban Transport, Metro

REFERENCES:

1. Julfikar Hussain (2021), Settlement Geography, Notion Press.
2. R.C. Tiwari (2020), Settlement Geography, Pravalika publication, Allahabad.
3. R.Y. singh (2002), Geography of Settlements, Rawat Publication, Jaipur
4. V.N.P. Sinha (2017), Introduction to Settlement Geography, Rajesh Publication, New Delhi
5. Dr. S. D. Mauriya (2015), Settlement Geography

6. William F. Horn (1991), An Introduction to Settlement Geography, Melvyn Jones Cambridge University Press.
7. R. B. Mandal (1979), Introduction to Rural Settlements, Concept Publishing Company, Bihar.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Students will understand why people settled in certain areas.
- Analyse the types and characteristics of rural settlements.
- Synthesize the nature of urban settlements, its types and functional basis of classification.
- Apply the urban landuse models to different cities and compare the models with cities.
- Place the cities based on their hierarchy and analyse the urban problems.

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Third Year **CORE COURSE IX** **Semester VI**

WORLD REGIONAL GEOGRAPHY

Code: **(Theory)** **Credit: 5**

COURSE OBJECTIVES:

- Understand the Principles of Geographic Study
- Summarize the Key Physical and Human Features of the World
- Distinguish between different types of regions
- Classify the major subfields of geography and their key conceptual frameworks.

UNIT – I NATURAL REGIONS:

Concept- Formal and Functional regions - Regional Hierarchy.

UNIT – II EQUATORIAL REGIONS:

Location and extent – Physiography – Climate –Flora- Fauna - Economic activities - Population.

UNIT – III TROPICAL REGIONS:

Location and extent – Physiography – Climate – Flora- Fauna - Economic activities - Population.

UNIT – IV TEMPERATE & MEDITERRANEAN REGIONS:

Location and extent – Physiography – Climate – Flora- Fauna - Economic activities - Population.

UNIT – V POLAR TEMPERATE REGIONS:

Location and extent – Physiography – Climate – Flora- Fauna - Economic activities - Population.

UNIT-VI CURRENT CONTOURS (For continuous internal assessment only):

Australia bushfire (2021), Assam Flood (2022), Global Warming, Loss of Bio-Diversity/Endangered Plants and Animals –Forest Fire- Sea level Rise.

REFERENCES:

1. Majid Husain (2021), World Geography, Rawat Publication, Jaipur.
2. William G. Moseley, Erin H. Fouberg (2017), Understanding World Regional Geography, Wiley, USA
3. Douglas L Johnson (2015), World Regional Geography: A Development Approach, Upper Saddle River, NJ.
4. David L. Clawson, James Fisher et al., (2003), World Regional Geography: A Development,

5. Caitl in Finlayson, World Regional Geography University of Mary Washington Copyright Year: 2016
6. Majid Husian (2012), World Geography, 4th Edition. Rawat Publications, New Delhi.
7. Cole, J (1996), A Geography of the World's Major Regions, Routledge, London.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Describe the distinctiveness of natural regions of the world.
- Familiarize the climatic conditions, flora and fauna, economic activities of equatorial regions.
- Understand physical environment, human and animal life of tropical region.
- Understand the adaptation and adaptive capacities of different natural systems of the world.
- Explain the causes of harsh climate in the polar region and the nature of the vegetation, population and animals, processes in Polar regions

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Third Year **CORE PRACTICAL VI** **Semester VI**

MAP PROJECTION AND SURVEYING

Code: **(Practical)** **Credit: 4**

COURSE OBJECTIVES:

- To provide technical skills in construction of map projection.
- To provide technical skills in conducting different surveying techniques to the students.
- To impart skill in using various surveying instruments

Cylindrical Projection

Ex. 01: Equal Distance, and
Ex. 02: Equal Area
Ex. 03: Mercator

Conical Projection

Ex. 04: One Standard
Ex. 05: Two Standard
Ex. 06: Polyconic and Bonne's Projection

Zenithal Projection

Ex. 07: Equidistant
Ex. 08: Stereographic
Ex. 09: Orthographic and Gnomonic

Surveying

Ex. 10: Chain Survey
Ex. 11: Prismatic Compass Survey
Ex. 12: Plane Table Survey
Ex. 13: Dumpy Level Measurement
Ex. 14: Indian Clinometers Survey

Current Contours (For continuous internal assessment only)

Total Station, GPS, GPR

REFERENCES:

1. Khullar, D. R., (2010) A Comprehensive Geography, India: Kalyani Publishers, New Delhi.
2. Jayachandaran, S. (1964). Practical Geography (Tamil Edition). Tamil Nadu Text Book Society, Chennai.
3. Khan, M.Z.A. (1998). Text Book of Practical Geography. Concept Publishing Company, New Delhi.

4. Negi, B.S. (1998). Singh, G. (1995). Practical Geography. Kedarnath and Ramnath, Meerut. Map Work and Practical Geography (3rd Edition). Vikas Publishing House Pvt. Ltd., New Delhi.
5. Saha, P. and Basu, P. (2013). Advanced Practical Geography. Kolkata Books and Allied Publisher, Kolkata.
6. Alvi, Z. (1998). A Text book of Practical Geography. Sangam Books Limited, Hyderabad.
7. Herubin, C.A. (1991) Principles of Surveying (4th Edition). Prentice Hall, New Jersey.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Systematically transform the details of three-dimensional surface to a plain paper
- Choose the right projection based on geographical area and purpose of the map
- Make use of proper tools and surveying methods for ground data collection.
- The course will enable students to handle a range of surveying instruments to measure distance, height and angle of physical features on the ground.
- Survey and measure height of objects with the help of different instruments.

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Third Year **MAJOR BASED ELECTIVE II** **Semester VI**

1. REGIONAL PLANNING

Code: **(Theory)** **Credit: 4**

COURSE OBJECTIVES:

- To study the interdisciplinary nature of regional planning considering physical, socio-economic and infrastructural dimensions.
- To get awareness about the developmental programs.
- To comprehend the planning system in Tamil Nadu

UNIT – I GEOGRAPHY AND REGIONAL PLANNING:

Basic concepts – Geographic space and regions – growth pole and growth centre - regional units – types of regions – goals and objectives of regional planning process – interdisciplinary nature of regional planning - nationalization and sectionalism.

UNIT – II APPROACHES TO REGIONAL PLANNING ANALYSIS:

Systems concept; Geographic data matrix: spatial and temporal dimensions – grouping of dimensions in regional analysis – regional science – methods to study Indian regional problems.

UNIT – III PLANNING IN INDIA:

Historical development –five year plans and annual plans and Niti Ayog– Agro ecological planning – water shed planning – sustainable development - regional imbalances - development programme: command area, drought prone, metropolitan, river valley, tribal and hill area.

UNIT – IV REGIONAL PLANNING IN TAMIL NADU:

Evaluation of regional planning - planning regions – backward area development – metropolitan, rural planning – local planning authorities – 73rd and 74th amendment of constitution of India.

UNIT – V TOWN PLANNING:

Basic concepts of town planning - need of town planning – Powers and functions of Nagar Panchayat, municipal council and Municipal Corporation - functions of town planning authority in Tamil Nadu.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

NITIayog, MGNREGS, PMKSY, e-Panchayat, SVAMITVA and Jaljeevan Mission.

REFERENCES:

1. Jiwan J (2021) Regional development and Planning Paperback –1 Urban and Regional Planning in India: A Handbook for Professional Practice 1st Edition, Kindle Edition 2013.
2. Chand Mahesh S. K Kulshrestha (2012) Regional Planning in India
3. Peter Hall Mark Tewdwr -Jones (2010) Urban and Regional Planning Paperback
4. John Glasson (2002). Contemporary Issues in Regional Planning
5. Misra R.P. (1971) Regional Planning: Concept Techniques. Politics and case studies. University Mysore, Mysore.
6. Misra R.P., Sundaram K.V. and V.L.S Prakasa Rao (1974); Regional development in India, Vikas publishing house, New Delhi.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the concept and types of regions, regional imbalance and disparity.
- Assess the regional imbalance, learn about the regions for planning in India and approaches to regional analysis.
- Apply the theories and models which are related to regional development in the real situations.
- Gain knowledge on five year plans, annual plans, special plans implemented in India, the achievements of the same and the planning regions in India.
- Examine the planning units and planning regions of Tamil Nadu

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Third Year **MAJOR BASED ELECTIVE II** **Semester VI**

2. POLITICAL GEOGRAPHY

Code: **(Theory)** **Credit: 4**

COURSE OBJECTIVES:

- To enhance awareness of multi-dimensional nature of geo-political space.
- Understanding the concept of States, Nations and the theories on global strategic views.
- Understand basic concepts of political geography and understand the different characteristics of territories and political systems.

UNIT – I INTRODUCTION:

Meaning, nature and scope of political geography – Recent trends in political geography – Approaches to political geography – Major traditions in political geography- Relevance of political geography in international relations

UNIT – II STATES AND NATIONS:

Concepts of Nations – State and Nations – Types of Nation -Elements of the State - Typology of State - Frontiers and boundaries – Unitary States and federal States - Forms of governance - Nationalism and national building

UNIT – III GEOPOLITICS:

Development of geopolitics - Global strategic views: Heartland theory, Rimland theory, Organic theory and Domino theory – Sea power: Geopolitical significance of the Indian Ocean - Recent trends in Geopolitics: Meta-geopolitics

UNIT – IV ELECTORAL GEOGRAPHY:

History of electoral studies - Geography of voting and representation - Geographic influences on voting pattern - Voting system in India: Factors affecting voting systems - Electoral distortion and bias: Gerrymandering and Malapportionment - Electoral mapping.

UNIT – V POLITICAL REALM OF INDIA:

Governance system in India – Changing Political maps of India - Emergence of new states - Unity and Diversity: Centripetal and centrifugal forces - Interstate issues - Federal India - Political relation - Geo-political problems of Border States

UNIT-VI: CURRENT CONTOURS (For continuous internal assessment only):

Vienna Agreement, Indo-China border problem, UN Millennium Goals, Good governance index and NAFTA & SAARC

REFERENCES:

1. R. L. Dwivedi & H. N. Misra (2019) Fundamentals of political geography paperback
2. Hardcover, M.A. Chaudhary, Gautam Chaudhary (2019) Global Encyclopaedia of Political Geography, English
3. Sudeepta Adhikari (2017) Political Geography Paperback
4. Ahmad A Political Geography, English, Hardcover,
5. Dr. Sudeepth (2013) Political Geography of India ,Sdudeepta Adhikari (2007) Political Geography Rawat Publication New Delhi.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Understand the nature, approaches to study traditions in political geography and its relevance to international relations.
- Differentiate the state and nation, frontiers and boundaries; learn the types of states and forms of governance.
- Synthesize the concept of geopolitics, views of different theories on global strategy and the geopolitical significance of Indian Ocean.
- Learn the subject associated with electoral geography, voting system in India and the factors which influence voting system.
- Analyse the governance system in India, emergence of new states and Interstate issues and geo- political problems of Border States.

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Third Year **PROJECT** **Semester-VI**

Code: **Credit: 3**

The candidate shall be required to take up a Project Work by group or individual and submit it at the end of the final year. The Head of the Department shall assign the Guide who, in turn, will suggest the Project Work to the students in the beginning of the final year. A copy of the Project Report will be submitted to the University through the Head of the Department on or before the date fixed by the University.

The Project will be evaluated by an internal and an external examiner nominated by the University. The candidate concerned will have to defend his/her Project through a Viva-voce.

ASSESSMENT/EVALUATION/VIVA VOCE:

1. PROJECT REPORT EVALUATION (Both Internal & External)

   I. Plan of the Project - 20 marks

   II. Execution of the Plan/collection of Data / Organisation of Materials / Hypothesis, Testing etc. and presentation of the report. - 45 marks

   III. Individual initiative - 15 marks

2. Viva-Voce / Internal & External - 20 marks

TOTAL **- 100 marks**

PASSING MINIMUM:

	Vivo-Voce 20 Marks	**Dissertation 80 Marks**
Project	40% out of 20 Marks (i.e. 8 Marks)	40% out of 80 marks (i.e. 32 marks)

A candidate who gets less than 40% in the Project must resubmit the Project Report. Such candidates need to defend the resubmitted Project at the Viva-voce within a month. A maximum of 2 chances will be given to the candidate.

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Third Year **SKILL BASED ELECTIVE II GEOGRAPHY OF TOURISM** **Semester VI**

Code: **(Theory)** **Credit: 2**

COURSE OBJECTIVES:

- To be able to analyze the nature and types of tourism.
- To understand the factors influencing tourism.
- To studying the major tourist centers of Tamil Nadu and India

UNIT – I TOURISM:

Meaning & Nature - Basic Concepts, Components –Types of Tourism – Hotel and Types – Motivations of Tourism.

UNIT – II TOURISM GROWTH:

Historical growth – Prehistoric – Middle Ages – Modern Period. Causes and Consequences of Tourism – Technological Causes.

UNIT – III ROLE OF TRAVEL AGENCY:

Travel Agent – Tour Operators – Travel Organization Planning & development – Importance of Tourism Planning.

UNIT – IV INTERNATIONAL TOURISM ORGANIZATIONS:

International Union of Official Travel Organization – World Tourism Organization – Pacific Asia Travel Association (PATA).

UNIT – V TOURISM PLACES IN INDIA:

Delhi, Mumbai, Kolkatta, Bengalore and Chennai. Tourism Places in Tamilnadu: Climate Centre (Nilgiris and Kodaikkanal), Cultural Centre (Thanjavur and Mahabalipuram) and Sancturies.

UNIT – VI CURRENT CONTOURS (For continuous internal assessment only):

World Heritage Sites-A Travel.

REFERENCES:

1. A K Bhatia (2020) Tourism Development: Principles & Practices
2. Ankur Dogra (2020) Geography of Tourism
3. Sunil Baghla (2017) Tourism Geography
4. Sampad Kumar Swain Jitendra Mohan Mishra (2011) Tourism: Principles and Practices Oxford Higher Education
5. N. K. Dixit (2010) Tourism Geography
6. Babu P George & Alexandru Nedelea, International Tourism: World Geography and Development Perspectives

7. Velvet Nelson (2013), An Introduction to the Geography of Tourism, Rowman & Littlefield Publishers.

COURSE OUTCOMES:

On the completion of syllabus students must be able to:

- Equip with a basic understanding of nature and scope, trends and patterns of various types of tourisms.
- Identify and assess different forms of tourism, and
- Critique tourism practices for their implications locally and globally.
- Contextualize tourism within broader physical, cultural, environmental an economic dimensions of society
- Aware of the elements which support tourism

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