

SEMESTER I	CORE I	Hours 6	Credit 5
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Climatology

Objectives: At the end of the course students able to

1. Explain the process and importance of climatic phenomena.
2. Identify its impact of climate on human being and their activities.

UNIT – I

Climatology Definition Scope and contents Weather and climate Heat Budget Composition and structure of the Atmosphere.

UNIT – II

Temperature Horizontal and vertical distribution of temperature Pressure Belts Winds Planetary winds Monsoon Indian Monsoon Recent Theories of Indian Monsoon local Winds Jet Streams.

UNIT – III

Humidity Types Condensation Forms Fog Clouds Precipitation Forms Types and Distribution. Air Masses Front Types.

UNIT – IV

Atmosphere Distribution Cyclone and Anticyclone Temperate Cyclone Indian Cyclones Thunder Storms Climatic Classification Koppen's and Thorthwaith's.

UNIT – V

Impact of Climate on Society Definition and characteristics of Micro and Macro Climate Mountain Climate Coastal Climate Man made Climate. Weather Forecasting Types Role of Meteorological stations and satellites in Weather Forecasting Collection of Weather data from Newspaper and other sources.

References:

1. Trewartha. GT. (1968) Introduction to Climate McGraw Hill New York
2. Critch field H.J (1975) General Climatology, Prentice Hall New Delhi
3. Lal D.S. (1986) Climatology, Chaitanya Publishing House, Allahabad.
4. Smith Applied **Climatology**.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER I	CORE PRACTICAL II*	Hours 2	Credit -
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Climatic diagrams and Weather Map Interpretation

Objectives: At the end of the course students able to

1. Draw the various proper diagrams according to available data.
2. Interpret diagrams properly.

UNIT – I

Graphs: Meaning and format of graph, classification of graph

UNIT – II

Simple line graph, Multi line, Line and Bar Graph, polygon, Band Graph.

UNIT – III

Bar diagrams: – Simple Bar, Multiple and Compound Bar diagram

UNIT – IV

Circular diagrams: – proportionate circles, Ring diagrams, and Sector or Pie diagrams

UNIT – V

Three dimensional diagrams: Cubes, Block pile diagrams, sphere diagrams.

References:

1. D.R. Khullar: Essentials of Practical Geography
2. Singh.R.L. Elements of practical Geography.
3. R.P.Misra and Ramesh Fundamentals of Geography.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER I	ALLIED I	Hours 4	Credit 4
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Oceanography

Objectives: At the end of the course students able to

1. Know about the important of the ocean.
2. Explain the features and available ocean resources in the ocean.

UNIT – I

Introduction Distribution of Land and Water – surface configuration of Ocean Floor.

UNIT – II

Temperature and Salinity distribution (composition of Sea water, controls of salinity)
Major marine realms.

UNIT – III

Ocean currents, El Nino and La Nina and their occurrence and effects.

UNIT – IV

Waves and tides Definition and types and related theories.

UNIT – V

Coral reef, Ocean deposits and resources.

References:

1. Oceanography for geographers Sharma and Vattal.
2. The Times Atlas of the Oceans.
3. Oceanography Robert h. Boyer.
4. Samudhraviyal S. Subbiah

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER I	ALLIED PRACTICAL II*	Hours 2	Credit 2
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Mapping of spatial data distribution

Objectives: At the end of the course students able to

1. Identify and draw various signs symbols of the map.
2. Draw different thematic maps according to the available data.

UNIT – I

Data – Types – Spatial – Non Spatial – Quantitative and Qualitative Symbols – Maps

UNIT – II

Distribution Maps types Dot Maps – Single dot maps – Multiple dot maps.

UNIT – III

Isopleths – Choropleth, Choroschematic and chorochromatic.

UNIT – IV

Located Maps: located diagrams bar graph, circle, sphere – flow maps.

UNIT – V

Merits and demerits of spatial data distribution.

References:

1. D.R. Khullar Essentials of practical geography.
2. Singh. L.R.Elements of practical geography
3. R.P.Misra and Ramesh Fundamentals of geography.
4. Gopal Singh. Map work practical geography.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER I	SKILL BASED ELECTIVE I	Hours 2	Credit 2
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Geography of Travel and Tourism

Objectives: At the end of the course students able to

1. Identify the importance of tourism and its principles
2. Identify the potentiality of tourism centers and their problems.

UNIT – I

Scope and content Development – Types of Tourism – their importance

UNIT – II

Tourism Promotion Accommodation Transport facilities, Trade Fairs, Sports and Games as promoters of tourism.

UNIT – III

Travel Agencies and their functions, Passport and visa – Types.

UNIT – IV

Tourism Potentials of Tamil Nadu Major Tourism centers of Tamil Nadu.

UNIT – V

A General study on Tourist places of Bangalore, Delhi, Ooty, Kodaikanal, and Madurai

References:

1. Biswanth Ghosh Tourism and travel Management.
2. A.P. Singh Himalayan environment and tourism.
3. R.N.Ranl Dynamics of Tourism a Yrilogy **Vol.1**

U.G. Skill Based Elective Question Paper Pattern

- SEM.: (5 x 15 =) 75 marks + CIA: 25 marks = Total: 100 marks
- Five out of Eight questions.
- Minimum of one question is compulsory from each unit.

SEMESTER II	CORE III	Hours 6	Credit 4
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Geomorphology

Objectives: At the end of the course students able to

1. Locate landform features and explain its formation
2. Explain process of formation of different land form features.

UNIT – I

Geomorphology Definition Scope Nature and Content development recent Trends.

UNIT – II

Origin of the Earth Internal structure of the Earth Rocks Types; Igneous Sedimentary and Metamorphic.

UNIT – III

Geomorphic process Endogenic Diastrophism Folds Fault Earthquake Volcanism. Exogenic Process Weathering Mass Wasting Soils.

UNIT – IV

Gradational Process Erosional, Transportational, and Depositional Land forms of Fluvial, Glacial and Coastal.

UNIT – V

Climate and Landforms Effect of Climate on Land forms Morphogenetic Regions Iceages. Aeolian Karsts Erosion and Deposition Land Forms.

References:

1. Thorn bury W.D. (1969) Principles of Geomorphology. John Wiley and sons New York.
2. Strahler, A.N. & Strahler A. H. (1984) Elements of physical Geography. John Wiley.
3. Small. R. J. (1975) the Study of landforms. Cambridge University Press Cambridge.
4. Sparks (1984) Geomorphology, Longmans. Savindra Singh (2002) Geomorphology, Kalyan Publications, New Delhi.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER II	CORE PRACTICAL II*	Hours 4	Credit 4
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Climatic Diagrams and Weather map Interpretation

Objectives: At the end of the course students able to

1. Draw the various proper diagrams according to available data.
2. Interpret diagrams properly.

UNIT – I

Graphs: Meaning and format of graph, classification of graph

UNIT – II

Simple line graph, Multi line, Line and Bar Graph, polygon, Band Graph.

UNIT – III

Bar diagrams: – Simple Bar, Multiple and Compound Bar diagram

UNIT – IV

Circular diagrams: – proportionate circles, Ring diagrams, and Sector or Pie diagrams

UNIT – V

Three dimensional diagrams: – Cubes, Block pile diagrams, sphere diagrams.

References:

1. D.R.Khullar: Essentials of Practical Geography
2. Singh.R.L. Elements of practical Geography.
3. R.P.Misra and Ramesh Fundamentals of **Geography**.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER II	ALLIED PRACTICAL II*	Hours 2	Credit -
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Mapping of spatial data distribution

Objectives: At the end of the course students able to

1. Identify and draw various signs symbols of the map
2. Draw different thematic maps according to the available data

UNIT – I

Data – Types – Spatial – Non Spatial – Quantitative and Qualitative Symbols – Maps

UNIT – II

Distribution Maps types Dot Maps – Single dot maps – Multiple dot maps

UNIT – III

Isopleths – Choropleth, Choroschematic and chorochromatic

UNIT – IV

Located Maps: located diagrams bar graph, circle, sphere – flow maps

UNIT – V

Merits and demerits of spatial data distribution

References:

1. D.R. Khullar Essentials of practical geography.
2. Singh. L.R.Elements of practical geography
3. R.P.Misra and Ramesh Fundamentals of geography.
4. Gopal Singh. Map work practical geography.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER II	ALLIED III	Hours 4	Credit 4
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Hydrology

Objectives: At the end of the course students able to

1. Explain principles of hydrology.
2. Identify and explain various sources of water and its importance.

UNIT – I

Introduction: Water as a focus of geographical interest, Distribution and Balance Hydrological Cycle – Components of Hydrological cycle.

UNIT – II

Precipitation Forms and Types of precipitation Measurements of precipitation.

UNIT – III

Evapotranspiration process of Transpiration, Process of Evaporation Measurement of Evapotranspiration Lysi Meter Method only.

UNIT – IV

Surface Water: infiltration and soil moisture: The Process of infiltration zones of sub surface water Runoff: Factors affecting run off.

UNIT – V

Ground Water: Definition porosity and permeability aquifers, Ground water levels artesian wells – Location and distribution.

References:

1. Introduction to physical hydrology Richard and J. Charley Methuen &Co Ltd London.
2. Applied principles of Hydrology John. C. Manning, CBS. Publishers &Distributors, Delhi.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER III	CORE IV	Hours 4	Credit 4
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Geography of India

Objectives: At the end of the course students able to

1. Explain the basic information and details about India
2. Explain the distribution of resources and wealth & related economic activities of India

UNIT – I

India Location A sub-continent Political boundaries Physical divisions characteristics. Climate Temperature distribution Rainfall distribution Monsoons: Branches Impact on economy Types of Soil: Characteristics Distribution Soil Erosion and Conservation.

UNIT – II

Natural vegetation Types and distribution Economic importance of forests. River systems Northern and Southern Rivers River disputes. Need for irrigation Multipurpose River projects Agriculture production of Major crops Rice, Wheat, Cotton, Jute, Coffee, Tea, Agriculture Regionalisation Agricultural problems.

UNIT – III

Distribution and production of Mineral Resources: – Iron ore, Mica, Copper, Uranium Fuel resources: Coal, Petroleum, Natural Gas, Hydel, Non conventional Power Resources: – solar & wind. Industries Development Factors of Location Types of Industries Distribution and production of major Industries Iron and Steel Industries Cotton Textiles Sugar Industries Automobiles Ship Building Industries – Recent developments.

UNIT – IV

Transportation Roadways Types Railways and Water Ways and their distribution and Economic importance problems in the Water transportation – Ports – Classification – Distribution – Hinterland.

UNIT – V

Population growth – Distribution – Attributes: density Birth rate, Death rate Sex ratio Age structure Population problems and solution. Trade Pattern Characteristics Trend Trade Policies of India.

Note: Compulsory map question in Section - C

References:

1. Economic and Commercial Geography of India – C.P.Mamoria
2. Economic and Commercial Geography of India **Sharma**
3. A comprehensive geography of India – Khullar.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER III	CORE PRACTICAL V	Hours 2	Credit -
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Diagrammatic Representation of Data

Objectives: At the end of the course students able to

1. Draw the proper climatic diagram for the available climatic data.
2. Read the weather map and forecast the weather.

UNIT – I

Climatic Diagrams – types of climatic diagrams, weather maps: definition and types.

UNIT – II

Weather data Source. Simple climatic diagrams Simple line graph, Poly graph Isoleths Maps (Isotherm, Isobar, Isohyets).

UNIT – III

Diagram: – Climograph Hythergraph Ergo graph.

UNIT – IV

Wind Roses Simple wind rose Star Diagrams Compound wind rose Octagonal wind rose.

UNIT – V

Weather symbols Station Model Interpretation of Indian Daily Weather Maps (All seasons).

References:

1. D.R.Khullar: Essentials of practical Geography
2. Singh.R.L.Elements of practical Geography
3. R.P. Misra and Ramesh Fundamentals of cartography
4. Gopal singh: Map work and practical **Geography.**

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER III	ALLIED IV	Hours 4	Credit 3
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Basics of Cartography

Objectives: At the end of the course students able to

1. Study cartography fundamentals and Map drawing techniques.
2. Know Map symbols and computer use in cartography.

UNIT – I

Cartography Nature, Scope Content of cartography Arts and Science of cartography – Cartography as a system of communication Maps classification and their uses – Growth, development and modern trends in cartography

UNIT – II

Map drawing and measuring techniques – Map setting – The earth and system of Co-ordinates Base Map Compilation and Generalization of Maps.

UNIT – III

Symbolization: Types of Cartographic symbols – Point, Line and Area symbols – Quantitative and Qualitative data generalization.

UNIT – IV

Map Design and Layout: General design problems – Principles of cartographic design and design of map symbols – Lettering: Lettering methods, Positioning of letters Geographical names

UNIT – V

Map Reproduction – Processes of map production Photographic systems – Multiple Reproduction processes – Computer application in Cartography – Computer Mapping Remote Sensing and Cartography – Uses of Air Photographs and Satellite images in Cartography

References:

1. Misra R.P. and A.P.Ramesh – Fundamentals of Cartography
2. Robinson Elements of Cartography
3. Keats J.S. Cartographic Design and Production
4. Raiz – Principles of Cartography.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER III	ALLIED PRACTICAL V	Hours 2	Credit -
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Maps and Scales

Objectives: At the end of the course students able to

1. Make the students to understand the meaning and construction of scales.
2. Familiarize the students with aspects of maps, enlargement and reduction and imaginary lines.
3. Understand the measurement of distance and area.

UNIT – I

SCALES: Meaning, Conversion of Scales Construction of Simple Linear Scales, Comparative Scales, Diagonal Scales.

UNIT – II

MAPS Definition Types and significance of map Enlargement and Reduction of Maps: Square and Similar Triangular Methods.

UNIT – III

Combination of Maps Latitude and Longitude International Date Line Direction and Bearings

UNIT – IV

MEASUREMENT OF DISTANCE: Thread, Divider and Rotometer methods Measurement of Area Square and Strip methods Function of Planimeter.

UNIT – V

REPRESENTATION OF RELIEF FEATURES: Contours Interpolation of Contours, Representation of land forms.

References:

1. D.R. Khullar: Essentials of practical Geography.
2. Singh R.L. Elements of practical Geography
3. R.P.Misra and Ramesh Fundamentals of cartography.
4. Gopal Singh: Map work and practical.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER III	MAJOR ELECTIVE I	Hours 4	Credit 5
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Landuse and Cadastral Surveying

Objectives: At the end of the course students able to

1. Identify the use Landuse classification and importance
2. Conduct survey and able classify land uses.

UNIT – I

Landuse mapping meaning and scope, approaches to Landuse mapping Cadastral mapping uses and methods

UNIT – II

Landuse and regulation, Landuse and environment, Landuse conflict, Landuse planning. Cadastral surveying entimology of cadastral surveying ownership and tenure.

UNIT – III

Landuse classification Concepts and methods – Landuse system in India cadastral mapping in India Landuse types.

UNIT – IV

Techniques in Land use survey and mapping land use resource measurements – Techniques of cadastral mapping, procedures and instruments used in cadastral surveying.

UNIT – V

Role of GIS and GPS in Landuse and cadastral surveying – Landuse classification and remote sensing.

References:

1. Freeman T N – Geography and Planning, Hatchinsen University
2. Sharan A S – Landuse planning, Essays in Geography
3. Chishon – Rural settlements Landuse, Hatchinsen University.
4. Mandal R B – Land utilization: theory and practice, concept publishing company.
5. Anjy Reddy – Remote sensing & GIS.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER III	SKILL BASED ELECTIVE II	Hours 2	Credit 4
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Basics of Disaster Studies

Objectives: At the end of the course students able to

1. Identify various disasters and its impact.
2. Manage natural hazards and will provide proper suggestions for Disaster reduction.

UNIT – I

Disasters Meaning and Concept Types.

UNIT – II

Planetary hazards: Terrestrial hazards earthquake hazards Hazardous effects of earthquake – Earthquake hazards in India.

UNIT – III

Volcanic hazards: Hazardous effects of volcanic eruptions Environmental Impacts of volcanic eruptions.

UNIT – IV

Atmospheric or Exogenous hazards Destruction by Tropical cyclones and local storms Floods Droughts.

UNIT – V

Man Induced hazards social response to hazards Natural Disaster reduction and Management.

References:

1. A Text Book of environmental science. S.S. Purohit, Q. J. Sharamani and A.K.Agarwal.
2. Environmental Pollution (Tamil) P. Chadrakaran.
3. Environmental Geography Savindra Singh.
4. Introduction to Environmental science V. Anjaneyelu.
5. Environmental Problems and solutions B.K. Sharma, **Kaur.**

U.G. Skill Based Elective Question Paper Pattern

- SEM.: (5 x 15 =) 75 marks + CIA: 25 marks = Total: 100 marks
- Five out of Eight questions.
- Minimum of one question is compulsory from each unit.

SEMESTER IV	CORE VI	Hours 6	Credit 4
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Human Geography

Objectives: At the end of the course students able to

1. Know the relationship of human being with his environment.
2. Reason for differentiation in the culture, religion, Races and language.

UNIT – I

Nature of Human Geography: meaning and scope, fundamental principles. Terrestrial activity – adaptation, environmentalism, possibilism, neo – determinism

UNIT – II

Man – environment relationship: – spatial, land, water, climate, animals, and man as a geographic element.

UNIT – III

Human adaptation: tropical humid lands, arid lands, Mediterranean lands, tundra and taiga lands.

UNIT – IV

Human races: – origin of man – concept of race – base of racial classification, racial classification of worlds and its distribution, Races of India.

UNIT – V

Cultural pattern: meaning of culture and civilization, linguistic classification, major religious classification, food and clothing of various cultures.

References:

1. Human Geography: – Majid Hussain (2010), Anmol publication, New Delhi.
2. Fundamentals of Human Geography: – (2009) Dr. R L Singh, Sharada Pustak Bhavan Allahabad.
3. Geography of India: – Khullar (2010).

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER IV	CORE PRACTICAL V	Hours 4	Credit 4
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Diagrammatic Representation of data

Objectives: At the end of the course students able to

1. Draw the proper climatic diagram for the available climatic data.
2. Read the weather map and forecast the weather.

UNIT – I

Climatic Diagrams – types of climatic diagrams, weather maps: definition and types.

UNIT – II

Weather data Source. Simple climatic diagrams Simple line graph, Poly graph Isoleths Maps (Isotherm, Isobar, Isohyets).

UNIT – III

Diagram: – Climograph Hythergraph Ergo graph.

UNIT – IV

Wind Roses Simple wind rose Star Diagrams Compound wind rose Octagonal wind rose.

UNIT – V

Weather symbols Station Model Interpretation of Indian Daily Weather Maps (All seasons).

References:

1. D.R. Khullar: Essentials of practical Geography
2. Singh.R.L. Elements of practical Geography
3. R.P. Misra and Ramesh Fundamentals of cartography
4. Gopal singh: Map work and practical **Geography.**

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER IV	ALLIED PRACTICAL V	Hours 2	Credit 2
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Maps and Scales

Objectives: At the end of the course students able to

1. Make the students to understand the meaning and construction of scales.
2. Familiarize the students with aspects of maps, enlargement and reduction and imaginary lines.
3. Understand the measurement of distance and area.

UNIT – I

SCALES: Meaning, Conversion of Scales Construction of Simple Linear Scales, Comparative Scales, Diagonal Scales.

UNIT – II

MAPS Definition Types and significance of map Enlargement and Reduction of Maps: Square and Similar Triangular Methods.

UNIT – III

Combination of Maps Latitude and Longitude International Date Line Direction and Bearings

UNIT – IV

MEASUREMENT OF DISTANCE: Thread, Divider and Rotometer methods Measurement of Area Square and Strip methods Function of Planimeter.

UNIT – V

REPRESENTATION OF RELIEF FEATURES: Contours Interpolation of Contours, Representation of land forms.

References:

1. D.R. Khullar: Essentials of practical Geography.
2. Singh R.L. Elements of practical Geography
3. R.P.Misra and Ramesh Fundamentals of cartography.
4. Gopal Singh: Map work and practical.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER IV	ALLIED VI	Hours 4	Credit 3
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Regional Geography of Asia

Objectives: At the end of the course students able to

1. Explain the basics of Geographical concepts and its classification.
2. Explain the use of Geography in Factory and other trades.

UNIT – I

Significance of Geographical location – Physiographic divisions – Climate Drainage systems

UNIT – II

Soil types and classification – Agricultural production – Rice and Wheat – Rubber, Tea and Coffee, Sugar cane and Jute

UNIT – III

Mineral and Energy Resources – Iron Ore, Manganese, Tin, Bauxite, Coal, Petroleum and Natural Gas

UNIT – IV

Industrial Production and Distribution Iron and Steel, Cotton and Textile, Sugar cane and Automobile

UNIT – V

Population Transport and Trade and Commerce

References:

1. Human and Economic Geography Coh Cheng Leong Oxford Press
2. World Geography – Hembridge
3. Geography of Asia – Dobby
4. A Regional Geography of the World – D.S. Manku.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER V	CORE VII	Hours 6	Credit 5
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Basics of Remote Sensing

Objectives: At the end of the course students able to

1. Explain the principles of remote sensing.
2. Explain the use of remote sensing in Geography.

UNIT – I

Remote sensing Definition Historical Development Components EMR (Electro Magnetic Radiation)

UNIT – II

Satellite remote sensing: Types of satellites, platforms types of resolutions, bands.

UNIT – III

Fundamentals of image interpretation visual interpretation techniques image interpretation keys.

UNIT – IV

Image processing Image rectification Supervised and unsupervised

UNIT – V

Application of remote sensing in Land use / land cover, Agriculture and Environmental Assessment.

References:

1. H. Robinson, Joel L. Morrison Elements of cartography
2. Lilly sand Remote sensing and image interpretation.
3. Dickinson G.C. Maps and air photography.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER V	CORE VIII	Hours 6	Credit 5
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Geography of Tamil Nadu

Objectives: At the end of the course students able to

1. Explain the distribution of natural resources of Tamil Nadu
2. Explain problems and prospectus of Tamil Nadu.

UNIT – I

Location Administrative Divisions Physiographic Drainage Climate Soil Natural Vegetation.

UNIT – II

Irrigation: Types and Importance Agriculture Distribution and production of Rice, Cotton, Sugarcane, Tea, Groundnut.

UNIT – III

Power Resources: Hydel, Thermal, Wind Power Distribution. Mineral resources Bauxite and Lime stone Iron ore and coal.

UNIT – IV

Distribution and Production of Cotton Textile, Automobile, Cement and Leather Industries.

UNIT – V

Population Growth and Distribution Transport: Road, Rail, and Air Major Ports.

References:

1. Geography of Tamil Nadu V. Kumarasamy (Tamil)
2. Resource Atlas of Tamil Nadu University of Madras.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER V	CORE IX	Hours 6	Credit 4
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Geography of Settlement

Objectives: At the end of the course students able to

1. Explain the formation and principles of settlements.
2. Explain the distribution, pattern, and characteristics of settlements.

UNIT – I

Settlement Geography: Introduction Scope and Content Types of settlements Temporary Permanent Rural and Urban.

UNIT – II

Rural Settlement: – Growth and Development distribution Characteristics site and Situation settlement Patterns: – Round, Linear, Grid Cluster and Dispersed.

UNIT – III

Spatial Characteristics of Rural Settlements Structure of rural Settlements House Forms Indian Rural Settlement characteristics

UNIT – IV

Urban Settlement: – Origin and Growth of towns and cities site and situation stages of growth classification of urban settlements: – functional and hierarchical urban Morphology and its related theories (Concentric, sector, Multinuclei) Christaller's central Place theory.

UNIT – V

Urban Expansion – Vertical and Horizontal Urban sprawl Urban Fringe Sub Urban: Satellite towns, central Business District (CBD) Urban Problems.

References:

1. Majid Hussain: Human Geography.
2. Human Geography Balbair **Negi.**

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER	V	CORE PRACTICAL	X	Hours	4	Credit	4
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Projection and Surveying

Objectives: At the end of the course students able to

1. Know to transfer whole or part of earth to a plane surface with suitable projection.
2. Conduct survey for primary data collection

UNIT – I

Map Projections General principles Classification choice of projection: – Construction of the following projection with limitation and uses. Zenithal Equidistant, Zenithal Equal area, Gnomonic, Stereographic, Orthographic. Cylindrical Equidistant, cylindrical equal area and Mercator's.

UNIT – II

Conical projection with one standard and two standard parallel, Bonne's Projection, Polyconic Projection,

UNIT – III

International projection. Conventional projections: Sinusoidal, Mollweide's (normal) Interrupted sinusoidal, Interrupted Mollweide's projection.

UNIT – IV

Surveying: Simple exercises using chain, Prismatic compass and clinometer.

UNIT – V

Surveying: Simple Exercises using Dumpy Level, Plane Table and Abney Level.

Note: Practical exam should be conducted at the same semester

References:

1. D.R. Khullar: Essentials of Practical Geography.
2. Singh. R.L. Elements of Practical Geography
3. R.P. Misra and Ramesh Fundamentals of Cartography.
4. Gopal Singh: Map Work and Practical Geography.
5. Zamir alive: A Text a Book of Practical Geography.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER V	MAJOR ELECTIVE II	Hours 5	Credit 5
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Geography for Competitive Examinations

Objectives: At the end of the course students able to

1. Know about important areas of geographical studies.
2. Capable for appearing subject geography in competitive exams.

UNIT – I

General Geography, Geomorphology, Climatology, Oceanography, Bio geography, Environmental Geography.

UNIT – II

Human and Settlement Geography, Population Geography and its theories – Economic Geography, Social and Cultural geography, Economic regions, cultural regions.

UNIT – III

Regional Geography: Asia, North America, South America, Africa, Europe, Australia.

UNIT – IV

Geography of India: Physical Aspects, Human Aspects, Socio and Cultural Aspects, Economic Aspects.

UNIT – V

Geographical Thought (Ancient, Medieval and Modern), Cartography, GIS, GPS, Remote Sensing.

Note: Total number of objective questions is 150. Questions should be distributed throughout the syllabus.

References:

1. Geography for civil services Preliminary Examinations, TMH publications (2010)
2. Geography for civil services Mains Examinations, Spectrum Publications (2010)
3. Geography for civil services Preliminary Examinations, K.Siddartha (2010).

U.G. Major Elective Question Paper Pattern

- SEM.: (150 x ½ =) 75 marks + CIA: 25 marks = Total: 100 marks
- 150 Multiple choice questions, each question carries ½ marks.

SEMESTER VI	CORE XI	Hours 6	Credit 5
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Geography of Resources

Objectives: At the end of the course students able to

1. Know about distribution of natural resources.
2. Identifies the importance and utilization of resources for the development activities.

UNIT – I

Resources: – concept, Scope and Content. Classification of Resource, Conservation and management of resources.

UNIT – II

Land resources: Distribution of land resources and its importance.

Water resources: Distribution of rainfall, ocean, rivers and lakes. Multipurpose projects –
Soil resources: – Classification of soil, distribution, erosion and conservation. Forest resources: – distribution of forest, need of conservation of forest.

UNIT – III

Agriculture resources: – Factors affecting agriculture. Distribution of major agriculture: – Rice, Wheat, Cotton, Jute, Sugarcane, Tea, Coffee and Rubber. Distribution of cattle and sheep rearing, Inland and marine fishing of the world.

UNIT – IV

Mineral resources: World distribution of minerals, Classification of mineral resources – Distribution and production of iron ore, coal, Manganese, Bauxite, gold and silver – Distribution of petroleum and power resources.

UNIT – V

Industrial resources: Distribution of major industries of the world: Iron & steel, ship building, automobile, chemical, aircraft, cotton textile, paper and jute industry.

References:

1. Economic and Commercial Geography K.K. Khanna & V.K. Gupta.
2. Alexander: – Economic Geography
3. Zimm Man: – World resources and industries
4. Goh Chang Leong: – Human and Economic Geography.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER VI	CORE XII	Hours 6	Credit 4
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Bio Geography

Objectives: At the end of the course students able to

1. Know about principles and processes going on in our environment.
2. Identifies the importance animals and plants.

UNIT – I

Biogeography Nature, Scope, Significance and development – Biogeography Paleo biogeography – Environment, habitat and plant animal association, Biome types

UNIT – II

Darwin theory of evolution laws of thermodynamics – Bio-geo – chemical cycle, tropic level, Food chain, Food web

UNIT – III

Concept of Biome, ectone and community – Concept of ecosystem energy flow in ecosystem – Types of ecosystem: – Forest, Grassland, Desert and Marine – Ecological balance, conservation and management.

UNIT – IV

Elements of plant Geography distribution of forest and major communities – Distribution of major animal grouping in the world.

UNIT – V

Deforestation causes and consequences – Pollution types and their effects – Significance of biodiversity and controlling factors.

References:

1. Agarwal D P, Man and environment in India through ages, Books & books India.
2. Bradshaw M J, Earth and living planet, ELBS, London.
3. Cox C D and Moore P D. Biogeography, an ecological and volutionary approach, Blackwell.
4. Gaur R, Environment and ecology of early man in northern India, RB Publication Corporation.
5. Hoyt J B, Man and earth, Prentice Hall, USA.
6. Mathus H S, Essentials of Biogeography, Anuj printers, Jaipur.
7. Peras N, Basic Biogeography, Longman, London
8. Simmon I G, Biogeography, Natural and cultural, Longman.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER VI	CORE XIII	Hours 5	Credit 4
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Introduction to GIS & GPS

Objectives: At the end of the course students able to

1. Know about the principles of GIS.
2. Use GPS for spatial data analysis.

UNIT – I

Geography and information technology Definition Basic concepts – components Functions.

UNIT – II

Data base: Spatial Non Spatial Data. Sources of Spatial Data: Maps, Air photographs, Satellite Imageries and GPS. Non Spatial Data: Census, Other Govt. Reports.

UNIT – III

Spatial Data models: Geo – referencing Vector and Raster Data. Representation (Point, Line and Area) Digitization.

UNIT – IV

Tools of GIS: Query, Buffer and Generation of Isolines DEM and TIN.

UNIT – V

GPS Logistics Concepts Historical Development Three segments Space, Control and User.

References:

1. Kang – Sung Chang (2002): Introduction to Geographic Information System. Tata McGraw Hill Publishing Company lit. New Delhi.
2. Peter A. Burrough and Rachael A. Medonnell (1998): Principals of Geographic Information System. Oxford University Press, New York.
3. Anand P.H. (2003): Principles of Remote Sensing and GIS, Srivenkateswara publishers, Kumbakonam.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER VI	CORE PRACTICAL XIV	Hours 5	Credit 4
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Quantitative Techniques and Map Interpretation

Objectives: At the end of the course students able to

1. Select appropriate quantitative techniques for representing the data.
2. Identify and interpret features from aerial photographs.

UNIT – I

Measure of central Tendency: Mean Median and Mode Standard Deviation.

UNIT – II

Frequency Distribution: Histogram frequency Curve – Ogive Curve. Scatter Diagram
Simple correlation Rank correlation.

UNIT – III

Conventional signs and Symbols: Types and numbering of Indian Topographical sheets
Interpretation of Indian Topographical Maps. Correlation between Physical features and settlements.

UNIT – IV

Interpretation of Aerial Photographs

UNIT – V

Interpretation of Satellite Imageries.

References:

1. D.R. Khullar: Essentials Of practical Geography.
2. Singh R.L: Elements of Practical Geography.
3. Gopal singh: Map Work and practical Geography.

U G Practical Question Paper Pattern

- SEM.: 75 marks + CIA: 25 marks = Total: 100 marks
 - SEM. : Record: 15 Marks + Question: (5 x 12 =) 60 Marks = 75 Marks
 - CIA : = 25 Marks
 - Total : =100 Marks
- Five questions without choice is the common pattern.

SEMESTER VI	MAJOR ELECTIVE III	Hours 5	Credit 4
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Geography of Population

Objectives: At the end of the course students able to

1. Know the factors influencing distribution of population.
2. Know population problems and causes of population explosion.

UNIT – I

Population Geography Nature & Scope Development of population Geography population data sources and methods of collection

UNIT – II

Population Growth Distribution of population, Density and factors controlling problems.

UNIT – III

Composition of population Demographic Structure – Rural and Urban population Composition – major races.

UNIT – IV

Migration Types causes and effects of population.

UNIT – V

Population policy with reference to India over population, under population and **problems**.

References:

1. Ghosh. B.N. (1987): Fundamentals of Population Geography, Sterling Publishers Ltd., New Delhi.
2. Clarke John. I. (1981): Introduction to Demography, Surjeet Publication, New Delhi.
3. Hornby William (1986): An Introduction to Population, Cambridge. University Press, London
4. Glenn. T. Trewartha: Geography of Population World pattern, John Willey and Sons Publications.

U.G. Theory Question Paper Pattern (SEM.: 75 marks + CIA: 25 marks = Total: 100 marks)

Section – A	Ten questions (two questions for each unit)	10 x 2 = 20 marks
Section – B	Five questions (two questions for each unit- either or type)	5 x 5 = 25 marks
Section – C	Three questions (3 out of 5 questions - one question is compulsory from each unit)	3 x 10 = 30 marks

SEMESTER VI	SKILL BASED ELECTIVE III	Hours 2	Credit 4
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Natural Regions of the World

Objectives: At the end of the course students able to

1. Know about characteristics of natural regions of the world.
2. Identifies the importance and utilization of resources of different regions.

UNIT – I

Definition – Natural regions of the world – Equatorial Region: Situation and Extent, Climate and Natural vegetation, Animals life, human life and Economic Development

UNIT – II

Tropical Region – Tropical monsoon region – Tropical Savanna Climate, Soil – Vegetation – Life in tropics – Economic Activity

UNIT – III

Arid Region – World Deserts – Hot Deserts – Cold Deserts – Climate, Soil – Vegetation – Life in deserts – Economic Activity

UNIT – IV

Temperate region – World Grasslands – (Prairies – Pampas – Downs – Veldes – Canterbury) Climate – Soil – Life in temperate regions – Economic Activity

UNIT – V

Tundra region Arctic region Climate Vegetation Life in Tundra region – Economic activity

References:

1. Economic and Commercial Geography K.K. Khanna & V.K. Gupta.
2. Certificate of physical and human Geography – Goh Cheng Leong
3. Geography of Asia – Tirth Ranjit Rawat Publication, New Delhi.

U.G. Skill Based Elective Question Paper Pattern

- SEM.: (5 x 15 =) 75 marks + CIA: 25 marks = Total: 100 marks
- Five out of Eight questions.
- Minimum of one question is compulsory from each unit.

SEMESTER VI	<i>NON MAJOR ELECTIVE (For Botany)</i>	Hours 2	Credit 2
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Geography of India

Objectives: *At the end of the course students able to*

1. Explain the basic information and details about India
2. Explain the distribution of resources and wealth & related economic activities of India

UNIT –I

India – Location –A sub Continent – Physical divisions. Climate – Rainfall distribution – Monsoons : Branches – Impact on economy - Rivers - Types of Soil : Characteristics – Distribution.

UNIT –II

Natural vegetation – Types and distribution – Distribution of Major crops – Rice, Wheat, Cotton, Jute, Coffee, Tea, - Agricultural problems.

UNIT –III

Distribution and production of Mineral Resources:- Iron ore , Mica, Copper, Uranium - Fuel resources: Coal, Petroleum, Natural Gas, Hydel – Distribution and production of major Industries - Iron and Steel Industries - Cotton Textiles – Sugar Industries – Automobiles – Ship Building Industries.

UNIT –IV

Transportation – Roadways – Types – Railways and Water Ways and their distribution.

UNIT –V

Population growth- Distribution- density – Population problems - Trade

References:

1. Economic and Commercial Geography of India- C.P.Mamoria
2. Economic and Commercial Geography of India – Sharma
3. A comprehensive geography of India- Khullar.

Question Pattern

5 out of 8 questions, 05x15 =75 marks