
GEOGRAPHY

Unit - I

Geomorphology

Fundamental concepts; Factors controlling landform development; Endogenetic and Exogenetic forces; Denudation process; weathering and erosion, Geosynclines, mountain building, continental drift and plate tectonics; Concept of Geomorphic Cycle; Landforms associated with fluvial, glacial, arid, coastal and karst cycles, Slope forms and processes; Environmental and Applied Geomorphology.

Unit - II

Climatology

Composition and structure of the atmosphere; Insolation; Heat budget of the earth; Distribution of temperature, atmospheric pressure and general circulation of winds; Monsoons and jet streams; Stability and instability of the atmosphere; Air-masses; Fronts, temperate and tropical cyclones; Types and distribution of precipitation; Classification of world climates; Koppen's and Thornthwaite's schemes; Hydrological Cycle; Global warming

Unit - III

Oceanography

Origin of ocean basins; Bottom relief of Indian, Atlantic and Pacific Oceans; Ocean deposits; Coral reefs; Temperature and salinity of the Oceans; Density of sea water; Tides and ocean currents; Sea-level changes.

Bio-Geography

Physical factors influencing world distribution of plants and animals; Forms and functions of ecosystem : Forest, grassland, marine and mountain ecosystem; Bio-diversity and its depletion through natural and man induced causes; Conservation and management of ecosystems; Environmental hazards and problems of pollution; Ozone depletion.

Unit - IV

History of Geographic Thought

General character of Geographic knowledge during the ancient and medieval period; Foundations of Modern Geography : Contribution of German, French, British and American schools; Conceptual and methodological developments during the 20th century; Changing paradigms; Man and Environment, determinism and possibilism, areal differentiation and spatial organisation : Quantitative revolution; Impact of positivism, humanism, radicalism and behaviouralism in Geography.

Unit - V

Population Geography

Nature, scope, subject matter and recent trends; Patterns of world distribution, growth and density of population; Policy issues; patterns and processes of migration; Demographic transition; Population-resource regions.

Settlement Geography

Site, situation, types, size, spacing and internal morphology of rural and urban settlements; Ecological processes of urban growth; Urban fringe; City-region; Settlement systems; Primate city; Rank-Size rule; Settlement hierarchy; Christaller's Central Place theory; August Losch's theory of market centres.

Unit - VI

Economic Geography

Location of economic activities and spatial organization of economics; Classification of economies; Sectors of Economy; primary, secondary, tertiary and quaternary; Natural resources; Renewable and non-renewable; Conservation of resources.

Agricultural Geography

Concept and techniques of delimitation of agricultural regions; Measurement of agricultural productivity and efficiency; Crop combinations and diversification; Von Thunen's Model; Agricultural systems of the world.

Industrial Geography

Classification of industries : Weber's and Losch's approaches; Resource based and footloose industries.

Geography of Transport and Trade

Models of transportation and transport cost; Accessibility and connectivity: inter-regional and Intra-regional; Comparative cost advantages.

Unit - VII

Political Geography

Definition and scope of Political Geography; Geopolitics; Global strategic views (Heartland and Rimland theories); Concept of nation, state and Nation-State; Boundaries and frontiers; Politics of world resources; Geography and Federalism.

Social Geography

Nature and scope of social geography; Social structure and social processes; Elements of social Geography-ethnicity, tribe, dialect, language, caste and religion; Concept of Social wellbeing.

Cultural Geography

Nature and scope of cultural geography; Environment and culture; Concept of culture-areas and cultural regions; Theories of tribal groups; Dwelling places as cultural expressions.

Unit-VIII

Regional Planning

Regional concept in Geography; its application to planning; Concept of planning region; Regional hierarchy; Types of regions and methods of regional delineation; Conceptual and theoretical framework of regional planning; Regional planning in India; Concept of development; Indicators of development; Regional imbalances.

Unit-IX

Geography of India

Physiographic divisions; Climate: its regional variations; Vegetation types and vegetation regions; Major soil types; Coastal and Marine resources; Water resources; Irrigation; Agriculture; Agroclimatic regions; Mineral and power resources; Major industries and industrial region; Population distribution and growth; Settlement patterns; Regional disparities in social and economic development.

Unit-X

Cartography

Map as a tool in Geographical studies; Types of Maps; Techniques for the study of spatial patterns of distribution; Single purpose and composite maps; Choropleth, Isopleth and Chorochromatic maps and pie diagrams; Mapping of location specific data; Accessibility and flow maps.

Remote sensing and computer application in mapping; Digital mapping; Geographic information System (GIS) : Thematic maps.

Statistical Methods

Data sources and types of data; Statistical diagrams; study of frequency distribution and cumulative frequency; Measures of central tendency; Selection of class intervals for mapping; Measures of dispersion and concentration; Standard deviation; Lorenz curve; Methods of measuring association among different attributes; Simple and multiple correlation; Regression.

Measurement of spatial patterns of distribution; Nearest neighbour analysis; Scaling techniques, rank score, weighted score; Sampling techniques for geographical analysis.

Research Methods

Procedure of Scientific Research; Classification of Research; Review of Literature; Defining a Research Problem; Formulating Hypothesis; Research Design; Measurement of Scales; Sampling - Need for Sampling, Methods of sampling.

Primary and Secondary Data collection; Processing of Data; Jurimetrics; Quantitative Techniques; Data Validation

Preparation of Research Reports – Structure and Layout; Citation methods; Research Ethics – Scientific misconducts: Falsification, Fabrication and Plagiarism
