GEOGRAPHY

PAPER-II

1. Geomorphology:
   Fundamental concepts: Endogenous and Exogenous forces:
   Denudation and weathering; Geosynclines, continental drift
   and plate tectonics; Concept of geomorphic cycle; Landforms
   associated with fluvial, glacial, arid coastal and karst cycles.

2. Climatology:
   Composition and structure of the atmosphere; Heat budget of
   the earth; Distribution of temperature; Atmospheric pressure
   and general circulation of winds; Monsoon and jet stream;
   Tropical and temperate cyclones; Classification of world cli-
   mates; Koppen’s and Thornthwaite’s schemes.

3. Oceanography:
   Ocean deposits; Coral reefs; Temperature and salinity of the
   oceans; Density of sea water; Tides and ocean currents.

4. Bio-Geography:
   World distribution of plants and animals; Forms and func-
   tions of ecosystem; Conservation and management of ecosys-
   tems; Problems of pollution.

5. Geographic Thought:
   General Character of Geographic knowledge during the an-
   cient and medieval period; Foundations of Modern Geogra-
   phy; Determinism and possibilism; Areal differentiation and
   spatial organisation.

6. Population Geography:
   Patterns of world distribution; Growth and density of popula-
   tion; Patterns and processes of migration; Demographic tran-
   sition.

7. Settlement Geography:
   Site, situation, types, size, spacing and internal morphology
   of rural and urban settlements; City-region; Primate city; Rank-
   size rule; Settlement hierarchy; Christaller’s Central Place
   theory; August Losch’s theory of market centres.

8. Economic Geography:
   Sectors of economy: primary, secondary, tertiary and quater-
   nary; Natural resources; renewable and non-renewable
   Measurement of agricultural productivity and efficiency; Crop
   combination and diversification; Von Thonen’s Model.
   Classification of industries: Weber’s and Losch’s approaches;
   Resource based and footloose industries.
   Models of transportation and transport cost: Accessibility and
   connectivity.

9. Political Geography:
   Heartland and Rimland theories; Boundaries and frontiers; Na-
   ture of administrative areas and Geography of public policy
   and finance.

10. Social Geography:
    Ethnicity; tribe; dialect; language, caste and religion; Con-
        cept of social well-being.

11. Cultural Geography:
    Culture-areas and cultural regions; human races; Habitual,
        Economy and Society of tribal groups.

12. Regional Planning:
    Regional concept in Geography; Concept of planning regions;
        Types of regions; Methods of regional delineation; Regional
        planning in India; Indicators of development; Regional im-
        balances; Evolution, nature and scope of town planning with
        special reference to India, and Fundamentals of Town and
        Country planning.

13. Geography of India:
    Physiographic divisions; Climate; its regional variations; Veg-
        etation types and vegetation regions, Major soil types; Irriga-
        tion and agriculture; Population distribution and growth; Settle-
        ment patterns; Mineral and power resources; major industries
        and industrial regions.

14. Cartography:
    Types of maps: Techniques for the study of spatial patterns of
        distribution; Choropleth; Isopleth and Chorochromatic maps
        and pie diagrams; Mapping of location-specific data; Access-
        ability and flow maps.
Remote sensing and Computer application in mapping; Digital mapping; Geographic Information System (GIS).

**Statistical Methods**:
Data sources and types of data; 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. Nearest-neighbour analysis; Scaling techniques; Rank score; Weighted score; Sampling techniques for Geographical analysis.

**PAPER-III (Part A & B) (Core and Elective/Optional)**

**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 Geomorphological 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.