

**Main Examination – Syllabus - Geography**

**Paper-I - Principles of Geography**

**Physical Geography**

**i) Geomorphology :** Factors controlling landform development; endogenetic and exogenetic forces; origin and evolution of the earth's crust; Fundamentals of Geomagnetism: physical conditions of the earth's interior; geosynclines; continental drift; isostasy; plate tectonics; Recent views on mountain building; volcanicity; Earthquakes and Tsunamis; Concepts of geomorphic cycles and Landscape development: Denudation Chronology: Channel morphology: Erosion surfaces: Slope development: Applied Geomorphology: Geo Hydrology, economic geology and Environment.

**ii) Climatology:** Temperature and pressure belts of the world; heat budget of the earth; atmospheric circulation; Atmospheric stability and Instability. Planetary and local winds; Monsoons and jet streams; Air masses and frontogenesis; Temperate and tropical cyclones; Types and distribution of precipitation; Weather and Climate: Koppen's and Thornthwaite's and Trewartha's classification of world climates; Hydrological cycle; Global Climatic Change and role and responses of man in climatic changes. Applied Climatology and Urban Climate

**iii) Oceanography:** Bottom topography of the Atlantic, Indian and Pacific Oceans; Temperature and salinity of the oceans; Heat and Salt Budgets: ocean deposits; Waves: ocean currents and tides; Marine resources—biotic, mineral and energy resources; Coral reefs; Coral bleaching; sea-level changes; Law of the sea and marine pollution

**iv) Biogeography:** Genesis of soils; classification and distribution of soils; soil profile; soil erosion degradation and conservation; Factors influencing world. Distribution of plants and animals; Problems of deforestation and conservation measures; Social forestry, Agro-forestry: Wild Life: Major gene pool centres.

**v) Environmental Geography:** Principle of Ecology: Human ecological adaptations; Influence of man on Ecology and Environment: Global and regional ecological changes and imbalances: Ecosystems and their management and conservation; Environmental degradation, management and conservation; Bio-diversity and Sustainable development: Environmental Policy: Environmental hazards and remedial measures: Environmental education and legislation.

**Human Geography**

**i) Perspectives in Human Geography:** Areal differentiation; regional synthesis; dichotomy and dualism;

environmentalism; Quantitative revolution and locational analysis; radical, behavioural, human and welfare approaches; Languages, religions and Secularisation: cultural regions of the world; Human development index.

**ii) Economic Geography :** World economic development—measurement and problems; world resources and their distribution; Energy crisis; the limits to growth; world agriculture—typology of agricultural regions; agricultural inputs and productivity; Food and nutrition problems; Food security: famine—causes, effects and remedies; World industries—locational patterns and problems; patterns of world trade.

**iii) Population and Settlement Geography:** Growth and distribution of world population; demographic attributes; Causes and consequences of migration; concepts of over–under– and optimum population; Population Theories; world population problems and Policies: Social Well-being and quality of life: Population as Social Capital. Types and patterns of rural settlements; Environmental issues in Rural Settlements: Hierarchy of urban settlements; Urban Morphology: Concept of primate city and rank-size rule; Functional classification of towns; sphere of urban influence; rural-urban fringe; Satellite towns; Problems and remedies of urbanization: Sustainable development of Cities.

**iv) Regional Planning:** Concept of a region; Types of regions and methods of regionalization; Growth centres and growth poles; Regional imbalances; Regional development Strategies; environmental issues in regional planning; Planning for sustainable development.

**v) Models, Theories and Laws in Human Geography :** System analysis in Human Geography; Malthusian, Marxian and Demographic Transition models; Central Place theories of Christaller and Losch; Von Thunen's model of agricultural location; Weber's model of industrial location; Rostov's model of stages of growth. Heart-land and Rimland theories; Laws of international boundaries and frontiers.

**Paper-II - Geography of India**

**1) Physical Setting:** Space relationship of India with neighboring countries; Structure and relief; Drainage system and watersheds; Physiographic regions; Mechanism of Indian monsoons and rainfall patterns; Tropical cyclones and western disturbances; Floods and droughts; climatic regions; Natural vegetation, Soil types and their distributions.

**2) Resources:** Land, surface and groundwater, energy, minerals, biotic and marine resources, Forests and Wild life Resources and their conservation; Energy crisis.

**3) Agriculture :** Infrastructure—irrigation, seeds, fertilizers, power; Institutional factors—land holdings, land tenure and land reforms; Cropping pattern, agricultural productivity, agricultural intensity, crop combination, land capability; Agro-and social forestry; Green revolution and its socio-economic and ecological implications; Significance of dry farming; Livestock resources and white revolution; Aqua Culture; Sericulture, Apiculture and Poultry: Agricultural regionalization; agro-climatic zones: Agro—ecological regions.

**4) Industry :** Evolution of industries; Locational factors of cotton, jute, textile, iron and steel, aluminium, fertiliser, paper, Chemical and pharmaceutical, automobile, cottage and Agro-based industries; Industrial houses and complexes including Public Sector Undertakings; Industrial regionalization; New industrial policies; Multinationals and liberalization: Special Economic Zones. Tourism including Eco-tourism

**5) Transport, Communication and Trade :** Road, railway, waterway, airway and pipeline networks and their complementary roles in regional development; growing importance of ports on national and foreign trade, Trade balance; Trade Policy: Export promotion zones; Developments in communication and Information technology and its impact on economy and society. Indian Space Programme.

**6) Cultural Setting:** Historical Perspective of Indian Society: Racial, linguistic and ethnic diversities; Religious minorities; major tribes, tribal areas and their problems; Cultural regions: growth, Distribution and density of Population; Demographic Attributes: Sex ratio, Age Structure, Literacy rate, Work force, Dependency ratio, longevity; migration (inter-regional, intra-regional and international) and associated problems, population problems and policies: Health Indicators.

**7) Settlements :** Types, patterns and morphology of rural settlements; urban development; Morphology of Indian cities; functional classification of Indian cities; Conurbations and metropolitan regions; urban sprawl; slums and associated problems; town planning; problems of urbanization and remedies.

**8) Regional Development and Planning:** Experience of regional planning in India; Five Year Plans; Integrated rural development programmes; Panchayati raj and decentralized planning; command area development; Watershed management; planning for backward area, desert drought-prone, hill and tribal area development; multi-level planning; Regional planning and development of Island territories.

**9) Political Aspects:** Geographical basis of Indian federalism; state reorganization; Emergence of new states: Regional consciousness and inter-state issues: International boundary of India and related issues; Cross boarder terrorism: India's role in World Affairs: Geopolitics of South Asia and the Indian Ocean realm.

**10) Contemporary Issues :** Ecological Issues: Environmental hazards—landslides, earthquakes, Tsunamis, floods and droughts, epidemics; issues related to environmental pollution; changes in patterns of land use; principles of environmental impact assessment and environmental management;

Population explosion and food security; Environmental degradation; Deforestation, Desertification and Soil Erosion: problems of agrarian and industrial unrest; Regional disparities in economic development; Concept of sustainable growth and development. Environmental Awareness: Linkage of rivers: Globalization and Indian Economy.

**Note:** Candidates will be required to answer one compulsory map question pertinent to subjects covered by this paper.