

GEOGRAPHY OPTIONAL SYLLABUS - (PAPER 1 & 2)

PAPER - I

Physical Geography :

1. Geomorphology : Factors controlling landform development; endogenetic and exogenetic forces; Origin and evolution of the earth's crusts; 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; Geomorphology, economic geology and environment.

2. 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 fronts; Temperate and tropical cyclones; Types and distribution of precipitation; Weather and Climate; Koppen's Thornthwaite's and Trewartha's classification of world climate; Hydrological cycle; Global climatic change, and role and response of man in climatic changes Applied climatology and Urban climate.

3. Oceanography : Bottom topography of the Atlantic, Indian and Pacific Oceans; Temperature and salinity of the oceans; Heat and salt budgets, Ocean deposits; Waves, currents and tides; Marine resources; biotic, mineral and energy resources; Coral reefs coral bleaching; Sea-level changes; Law of the sea and marine pollution.

4. 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, agroforestry; Wild life; Major gene pool centers.

5. Environmental Geography : Principle ecology; Human ecological adaptations; Influence of man on ecology and environment; Global and regional ecological changes and imbalances; Ecosystem their management and conservation; Environmental degradation, management and conservation; Biodiversity and sustainable development; Environmental policy; Environmental hazards and remedial measures; Environmental education and Legislation.

Human Geography :

1 Perspectives in Human Geography : Areal differentiation; Regional synthesis; Dichotomy and dualism; Environmentalism; Quantitative revolution and locational analysis; Radical, behavioral, human and welfare approaches; Languages, religions and secularization; Cultural regions of the world; Human development index.

2. 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: location patterns and problems; Patterns of world trade.

3. 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.

4. Regional Planning : Concept of a region; Types of regions and methods of regionalisation; Growth centers and growth poles; Regional imbalances; Regional development strategies; Environmental issues in regional planning; Planning for sustainable development.

5. 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; Perroux and Boudeville; Von Thunen's model of agricultural location; Weber's model of industrial location; Ostov'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, Forest and wildlife 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, Agriculture and poultry; Agricultural regionalisation; Agro-climatic zones; Agro-ecological regions.

4. Industry : Evolution of industries; Locational factors of cotton, jute, textile, iron and steel, aluminum, fertilizer, paper, chemical and pharmaceutical, automobile, cottage and agro-based industries; Industrial houses and complexes including public sector undertakings; Industrial regionalisation; New industrial policy; Multinationals and liberalization; Special Economic Zones; Tourism including ecotourism.

5. Transport, Communication and Trade : Road, railway, waterway, airway and pipeline net works and their complementary roles in regional development; Growing importance of ports on national and foreign trade; Trade balance; Trade Policy; Export processing zones; Developments in communication and information technology and their impacts 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, interaregional and international) and associated problems; Population problems and policies; Health indicators.

7. Settlements : Types, patterns and morphology of rural settlements; Urban developments; 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 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-border terrorism; India's role in world affairs; Geopolitics of South Asia and 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; Globalisation and Indian economy.

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