

Geography Optional Syllabus

Description

Paper I (Principles of Geography)

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
- Köppen'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 and 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 and agro-forestry
- Wildlife
- Major gene pool centres

5. Environmental Geography

- Principle ecology
- Human ecological adaptations
- Influence of man on ecology and environment
- Global and regional ecological changes and imbalances
- Ecosystem 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, behavioural, 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 regionalization
- Growth centres 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
- Heartland and Rimland theories
- Laws of international boundaries and frontiers

Paper II (Geography of India)

1. Physical Setting

- **Location:** India's position relative to neighbouring countries.
- **Relief and Structure:** Features like mountains, plains, and plateaus.
- **Drainage System:** Major rivers and watersheds in India.
- **Physiographic Regions:** Different geographical zones in India.
- **Monsoons and Rainfall:** Mechanism behind India's monsoon rains and seasonal variations.
- **Cyclones and Disturbances:** Tropical cyclones and western disturbances affecting the climate.
- **Floods and Droughts:** Causes and impacts of these natural disasters.
- **Climatic Regions:** Different climate zones in India.
- **Natural Vegetation:** Types of forests and their distribution across India.
- **Soil Types:** Various soil types found across India.

2. Resources

- **Land and Water:** Surface water, groundwater, and land resources.
- **Energy and Minerals:** India's energy and mineral resources.
- **Biotic Resources:** Forests and wildlife, their conservation, and challenges.
- **Marine Resources:** Ocean resources and conservation.

- **Energy Crisis:** The growing problem of energy scarcity in India.

3. Agriculture

- **Infrastructure:** Irrigation systems, fertilizers, seeds, and power in agriculture.
- **Institutional Factors:** Land reforms, land tenure, and land holdings.
- **Cropping Patterns:** Types of crops grown, agricultural productivity, and intensity.
- **Agro and Social Forestry:** Farming with forest products and the Green Revolution.
- **Dry Farming:** Importance of agriculture in dry areas.
- **Livestock Resources:** Role of livestock in agriculture, including the white revolution.
- **Aquaculture and Sericulture:** Fish farming and silk production.
- **Agro-climatic Zones:** Different agricultural regions based on climate and ecology.

4. Industry

- **Industrial Evolution:** Growth of industries in India.
- **Locational Factors:** Where industries are located, including cotton, jute, steel, and pharmaceuticals.
- **Industrial Houses and Public Sector:** Big industrial houses and government industries.
- **Industrial Regionalisation:** Concentration of industries in certain regions.
- **New Industrial Policy:** Policies shaping industrial growth, including liberalization.
- **Multinationals and SEZs:** Foreign companies and special economic zones in India.
- **Tourism and Eco-tourism:** Growth of tourism, including nature-based tourism.

5. Transport, Communication, and Trade

- **Transport Networks:** Role of roads, railways, waterways, airways, and pipelines.
- **Ports and Trade:** Importance of ports for foreign and national trade.
- **Trade Policy:** India's trade balance and policies.
- **Communication Developments:** Growth of information technology and space programs.
- **Export Processing Zones:** Areas set up for export-focused industries.

6. Cultural Setting

- **Historical Perspective:** History of Indian society and its cultural diversity.
- **Ethnic and Linguistic Diversity:** Varied languages, races, and ethnic groups.
- **Religious Minorities:** Issues related to religious groups and cultural coexistence.
- **Tribes and Tribal Problems:** Issues faced by tribes in India.
- **Population Indicators:** Growth, density, literacy, age structure, and migration patterns.
- **Health Indicators:** Issues like health, longevity, and dependency ratio.

7. Settlements

- **Rural Settlements:** Types, patterns, and issues related to rural settlements.
- **Urban Settlements:** Urbanization, city types, morphology, and planning.
- **Slums and Urban Sprawl:** Growth of slums and uncontrolled urban expansion.

- **Urbanization Problems:** Issues faced due to rapid urbanization and remedies.

8. Regional Development and Planning

- **Regional Planning:** Approaches to regional development in India.
- **Five-Year Plans:** Importance of India's planning strategy.
- **Rural Development:** Programs for rural development like Panchayati Raj and watershed management.
- **Planning for Special Areas:** Development for desert, hilly, and tribal areas.

9. Political Aspects

- **Federalism and State Reorganization:** Geographical and political basis for India's federal system.
- **Emerging States:** Issues related to new states and regional consciousness.
- **International Boundaries:** India's boundary issues with neighbours.
- **Cross-border Terrorism:** Security concerns related to terrorism.
- **India's Role in World Affairs:** India's position in global politics, especially South Asia and the Indian Ocean region.

10. Contemporary Issues

- **Ecological Issues:** Natural disasters like earthquakes, tsunamis, floods, and landslides.
- **Environmental Hazards:** Issues like pollution, deforestation, desertification, and soil erosion.
- **Globalization:** Impact of globalization on India's economy and society.
- **Environmental Impact Assessment:** Techniques to assess environmental damage and solutions.
- **Sustainable Development:** Focus on sustainable growth and development.
- **Agrarian Issues:** Problems related to agriculture and industrial unrest.

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