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 Earthâ??s crusts
    - Fundamentals of geomagnetism
    - Physical conditions of the Earthâ??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

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- Weather and climate
- Koppenâ??s, Thornthwaiteâ??s, and Trewar Thaâ??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

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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

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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 Thunenâ??s model of agricultural location
   - Weberâ??s model of industrial location
   - Ostovâ??s model of stages of growth
   - Heartland and Rimland theories
   - Laws of international boundaries and frontiers

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Paper II (Geography of India)

1. Physical Setting

- **Location**: Indiaâ??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 Indiaâ??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**: Indiaâ??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.

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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**: Indiaâ??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 Indiaâ??s planning strategy.
- **Rural Development**: Programs for rural development like Panchayati Raj and watershed management.
- **Planning for Special Areas**: Development for desart, hilly, and tribal areas.

9. Political Aspects

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

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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 Indiaâ??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.