UPSC Mains Geography Optional Paper-I Syllabus

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; Koppen's Thornthwaite's and Trewar Tha'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, agro-forestry; Wild life; 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 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, behavioural, human and welfare approaches; Languages, religions and secularisation; 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 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.