Syllabus - Geography

PRINCIPLES OF GEOGRAPHY

Physical Geography:

1. 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; Vulcanicity; Earthquakes and Tsunamis; Concepts of geomorphic cycles and Landscape development; Denudation chronology; Channel morphology; Erosion surfaces; Slope development; Applied Geomorphology : Geohydrology, 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 fronto genesis, Temperate and tropical cyclones; Types and distribution of precipitation; Weather and 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. Environmental Geography.—Principle of 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 Human development index.

2. Population and Settlement Geography.—Growth and distribution of world population; demographic attributes; Causes and consequences of migration; concepts of over-underand 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: Concepts 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.

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 ground water, energy, minerals, biotic and marine resources; Forest 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 regionalisation; agro-climatic zones; agro- ecological regions.

4. Industry.—Evolution of industries; Locational factors of cotton, jute, textile, iron and steel, aluminium, fertilizer, paper, chemical and pharmaceutical, automobile, cottage and agro-based industries; Industrial houses and complexes including public sector undertakings; Industrial regionalisation; 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 processing zones; Developments in communication and information technology and their impacts on economy and society; Indian space programme.

Population Geography.— distribution and density of population; Demographic attributes: sexratio, 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.

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.

Contemporary Issues.—Ecological issues: Environmental hazards: landslides, earthquakes, Tsunamis, floods and droughts, epidemics; Issues relating 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.

Practical Geography- Cartography Nature scope and recent development in cartography, Maps Types of Maps, Mapping Quantitative data, Thematic Maps, Symbols of Maps, Instruments to measure weather conditions, Statistical Diagrams, Data collection and interpretation, Field survey

Inroduction, definition and development of GIS, Roll of Computer in data interpretation.

Committee Members :

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