

509. GEOGRAPHY

1. Physical Geography-

Geomorphology- Fundamental Concepts, Theories about origin of Earth, Earth's Interior-Composition and Structure, Continental Drift Theory, Sea Floor Spreading theory, Plate tectonic theory, Major Landforms and forces behind their origin Mountains, Plateaus and Plains, Geomorphic processes- Weathering, Denudation and erosion, Fluvial, glacial, Aeolian, coastal, karst, Rocks- Origin, Classification and Characteristics, Slope.

Climatology- Structure and Composition of Atmosphere, Atmospheric Pressure and Temperature- Horizontal, Vertical and seasonal distribution, Insolation and heat Budget, Winds Distribution, Atmospheric Disturbance, Atmospheric Moisture Condensation and Precipitation types, Classification of world climates; Koppen's and Thoramwaite's schemes.

Oceanography- Ocean Deposits, Movements of Ocean Water, Factors affecting Ocean salinity and temperature, Tides and ocean currents.

2. Environment and Environmental Issues-

Man and Environmental relationships- Determinism, possibilism and ecology, Exploitation of Natural resources and environmental hazards- soil erosion, Pollutions air, water and land, Biodiversity and conservation of forests; Forms and functions of ecosystem; Conservation and management of ecosystems.

3. Human geography Economic Geography-

World Distribution of resources- renewable and non-renewable, Distribution of forests & vegetation, fisheries, agriculture & soils and their economic importance.

Population Geography- Distribution, Density, Growth, Literacy of Population over world, Trends and patterns of Urbanization

4. Geographic Thought -

General character of Geographic knowledge during the ancient and medieval period; Foundations of Modern Geography; Determinism and possibilism; Areal differentiation and spatial organisation.

5. **Geography of India-** Natural environment-Relief, drainage, climate, vegetation and soil distributions, Population- Distribution, density, growth, sex ratio, migration, literacy, urbanization. Economy- Agriculture (Characteristics, cropping pattern, green revolution and problems of agriculture), Industries (Distribution, Location and Production) Transport- Railways, Roads, Airways and Navigation.
6. **Geography of World-** Location of areas, Natural resources, Demographic and economic resources of continents- Asia, Australia, Europe, North America, South America and Africa; Classification of industries : Weber's and Losch's approaches; Resource based and footloose industries. Transportation, Accessibility and connectivity.
7. **Statistical Methods** - Data sources and types of data; Frequency distribution and cumulative frequency; Measures of central, tendency; Selection of class intervals for mapping; Measures of dispersion and concentration; Standard deviation; Lorenz Curve; Methods of measuring association among different attributes; Simple and Multiple correlation; Regression, scatter plot. Sampling techniques for Geographical analysis.
8. **Cartography** - Maps and Scales- History of cartography and types of maps. Scales- methods of representing scale; methods of construction of graphic scales- plain, comparative time, pace and diagonal scale. Directions, bearings and Representation of relief on maps and topographical sheets. Weather Maps- Schemes and Symbols, Weather maps of India Graphs- Line graph, climograph and hythergraph. Map Projections- Construction, Properties, Uses and Limitation of Projection: Cylindrical, Conical, Zenithal and Conventional. Remote sensing and computer application in mapping; Digital mapping; Geographic Information System (GIS), Thematic maps.