



Department of Geography

Syllabus of Entrance Test for MSc. Geography -2023-2024

Geomorphology: Fundamental Concepts of Geomorphology, Geological timescale, Processes of development of landforms; Endogenetic and exogenetic forces, Orogenesis and important phases of mountain building, Mountain building theories, Continental drift and plate tectonics, Denudation processes; weathering and erosion, Concept of geomorphic cycles; Davis and Penck, Landforms associated with fluvial, glacial, arid, coastal and karst cycles, Slope forms and concepts of slope evolution, Environmental and Applied geomorphology and Geomorphological hazards.

Climatology: Composition and structure of atmosphere, Insolation, Heat budget, Distribution of temperature, atmospheric pressure and general circulation of winds; Monsoons and jet streams, Stability and instability of atmosphere, Air-masses and fronts, Temperate and tropical cyclones, Types and distribution of precipitation, Classification of world climates; Koppen's and Thornthwaite's schemes and Hydrological cycle.

Oceanography: Relief of Oceans; hypsometric curve, Bottom relief of Indian, Atlantic and Pacific oceans, Ocean deposits, Coral reefs, Temperature, density and salinity of oceans, Ocean circulations; tides and ocean currents, Sea-level changes, Marine resources and their utilization.

Environment Geography: Components of environment and ecology, Physical factors influencing world distribution of plants and animals, Types, forms and functions of ecosystem; forest, grassland, marine, desert and mountain ecosystems, Biodiversity; depletion and conservation, Environmental pollution; types, causes, effects and solutions, Climate change; global warming and ozone depletion, Environmental hazards and disasters; types, effects and management and Environmental Impact Assessment (EIA) World distribution of plants & animals, major floristic regions of the world.

Geographical Techniques Sources of Geographic Information and Data (spatial and non-spatial), Types of Maps, Techniques of Map Making (Choropleth, Isarithmic, Dasymetric, Chorochromatic, Flow Maps) Data Representation on Maps (Pie diagrams, Bar diagrams and Line Graph. Descriptive statistics: visual descriptive methods, histograms, frequency curve. Measures of central tendency and partition values. Measure of dispersion: quartile deviation, mean deviation and standard deviation. Probability distribution and normal curve. Sampling: types of sampling and its applications in geographical studies. Inferential statistics: confidence intervals and hypothesis testing. Measures of inequality: Loren curve, Gini's coefficient. Bivariate analysis: scatter diagram, correlation (Spearman's rank correlation). Introduction to Map Projection: Meaning, Classification and importance; Characteristics of latitudes and longitudes lines.

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Remote Sensing and GIS GIS Database (raster and vector data formats and attribute data formats). Functions of GIS (conversion, editing and analysis), Georeferencing (coordinate system and map projections and Datum), GIS Application, Basics of Remote Sensing (Electromagnetic Spectrum, Sensors and Platforms, Resolution and Types, Elements of Air Photo and Satellite Image Interpretation and Photogrammetry), Types of Aerial Photographs, Digital Image Processing, its applications in Natural Resources Management in India, GPS Components (space, ground control and receiver segments) and Applications.

Economic Geography: Spatial organisation and classification of economies, Factors affecting spatial organization of economic activities; primary, secondary, tertiary and quaternary, Classification of resources, Forest, power and mineral resources, Conservation of resources, World energy crisis, Globalisation and its impact on world economy and Major regional trade blocks and their economic integration.

Human Geography: Modern school of thought in Human Geography possibilism, determinism, neo-determinism, Migration its causes and types, Distribution of important traces of the world, distribution of human population in the world.

Geography of India: Physiographic divisions, Climate, Vegetation, Drainage, Major soil types, Water resources, Irrigation, Agriculture; major food and commercial crops, Green revolution and food security, Agro-climatic regions, Mineral and power resources, Major industries and industrial regions, Population distribution and growth, Population problems and policies, Tribes, Tribal areas and their problems, Regional disparities in social and economic development, Regional planning in India and planning regions, Development of road, rail and inland water ways and Natural disasters in India; earthquakes, floods, droughts, cyclones and tsunamis.

Geography of Haryana: Physiographic divisions, Climate, Rivers and lakes, Soils and vegetation, Minerals and power resources, Agriculture and irrigation, Agro-climatic region, Cultural practice and society, climatic regions, Livestock, Major industries and industrial regions, Sites of geo-tourism, Population; distribution, density, growth, sex-ratio, literacy, Environmental problems; desertification, deforestation and soil erosion, Biodiversity and its conservation and Development programmes.

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