

**Pt. Ravishankar Shukla University, Raipur (C.G.)  
School of Studies in Geography**

**Syllabus  
Ph.D. Geography Entrance Test**

**Geomorphology:**

Fundamental concepts; factors controlling landform development; Endogenetic and Exogenetic forces; Denudation process: weathering and erosion, Geosynclines, mountain building, continental drift and plate tectonics; Concept of Geomorphic Cycle; Landforms associated with fluvial, glacial, arid, coastal and karst cycle, Slope forms and processes; Environmental and applied Geomorphology.

**Climatology:**

Composition and structure of the atmosphere: Insolation; Heat budget of the earth; Distribution of temperature, atmospheric pressure and general circulation of winds; Monsoons and Jet stream; stability and instability of the atmosphere; Air-masses; fronts, temperate and tropical cyclones; Types and distribution of precipitation; classification of world climates; Koppen's and Thornthwaite's scheme; Hydrological cycle; Global warming.

**Oceanography:**

Origin of ocean basins; Bottom relief of Indian, Atlantic and Pacific Oceans; Ocean deposits; Coral reefs; Temperature and salinity of the Oceans; Density of sea water; Tides and Ocean Currents; Sea-level changes.

**Geographical Thought:**

The Growth of Geographical knowledge from earliest times up to 15<sup>th</sup> Century, Contribution of Greek: Roman and Arab Geographers. Dark Age, Contribution of Modern Geographers: German, French, British & American, status of Indian Geography, Conceptual and methodological developments during the 20<sup>th</sup> century; changing paradigm, Determinism and Possibilism areal differentiations, Quantitative Revolution, Response to positivism, humanism, radicalism and behaviouralism in geography.

## Population Geography:

Nature, scope, subject matter and recent trends, Sources of population data, Census and its history, Population Pattern in the World and India: distribution, and growth. The concept of population density and its type. Population composition; Age structure and Sex ratio, rural-urban residence, educational status, and occupational structure. Fertility and Mortality; factors, Indices and rates, Migration causes, characteristics and types, Internal migration in India, Demographic Transition, Population and resource; concept of optimum, over population and under population, Population policy in India, Human development Index(HDI) and its components, Population Resource Region.

## Settlement Geography:

Site, situations, types, size, spacing and internal morphology of rural and urban settlement; Ecological processes of urban growth; Urban fringe; City-region; Settlement systems; Primate city; Rank-size rule; Settlement hierarchy; Christaller's central place theory; August Losch's theory of market centres.

## Economic Geography and Natural Resource Management:

Sectors of Economy: Primary, Secondary and Tertiary, Natural Resources and Economic Development. Classification of Resources, Natural resources: Renewable and Non-renewable, Resource appraisal Resource Conservation, Measurement of Agricultural Productivity and Efficiency, Crop Combination and Diversification. Delimitation of agricultural Region, Von Thunen's Model; Theory of Industrial Locations of Weber. International Trade, Indian Economy.

## Regional Development and Planning:

Regional concept in geography, Region and Regionalism, Concept of planning region, Types of regions, Delineation of Planning Regions, Regional planning in India, Indicators of development, regional imbalance with special reference to India, Regional Development Theories of Myrdal and Hirschman, Economic and Export Base Model. Planning for Problem Regions: Hill Area, Tribal Area. Drought Prone Area. Indicators of Regional Development.

## Geography of India with special reference to Chhattisgarh:

Physiographic divisions; Climate: Its regional variations; Vegetation type and vegetation regions; Major Soil types; Coastal and Marine resources; Water resources; Irrigation; Agriculture; Agro-climatic regions; Mineral and power resources; Major industries and industrial regions; population distribution and growth; settlement patterns; Regional disparities in social and economic development. Physical and cultural Geography of Chhattisgarh State.

## Advance Cartography (Remote Sensing and GIS) and Quantitative Techniques:

Map as a tool in geographical studies: types of maps: techniques for the study of spatial pattern of distribution; single purpose and composite maps, Triangular graph, climatograph, Dot map, Choropleth, chorochromatic map and pie diagram, Isopleths, Class interval, Flow Map, Circle Sphere and Cube, Profiles, Slope analysis, Map Projections and Geological maps. Interpretation of Topographic Maps, Aerial Photographs, Surveying, Remote Sensing Techniques, Geographical Information System.

Basics of Remote Sensing (Electromagnetic spectrum, Sensor and Platforms, Resolution), Types and elements of Aerial photo and Satellite image interpretation, Digital Elevation Model (DEM), GPS Components. Sources of Geographic information and data (Spatial and Non Spatial). GIS database (Raster and vector data), Application and GIS in Natural Resource Management.

Sources and types of data, Statistical diagram; study of frequency distribution and cumulative frequency, Central Tendency- Mean, Median and Mode, Dispersion – Mean deviation, Standard deviation, Variability- Relative Variability. Product Moment and Rank Correlation, Lorenz Curve, Regression, Mean centre, Nearest Neighbour Analysis, Hypothesis testing: Chi- Square, T-test, Sampling.

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