MADHYANCHAL
PROFESSIONAL UNIVERSITY

PhD Entrance Syllabus for Geography

Paper I

1. **Geomorphology :** Fundamental concepts; Endogenetic and Exogenetic forces; Denudation and weathering; Geosynclines, continental drift and plate tectonics; Concept of geomorphic cycle; Landforms associated with fluvial, glacial, arid, coastal and karst cycles.

2. **Climatology :** Composition and structure of the atmosphere; Heat budget of the earth; Distribution of temperature; Atmospheric pressure and general circulation of winds; Monsoon and jet stream; Tropical and temperate cyclones; Classification of world climates; Koppen's and Thornthwaite's schemes.

3. **Oceanography :** Ocean deposits; Coral reefs; Temperature and salinity of the oceans; Density of sea water; Tides and ocean currents.

   Bio-Geography : World distribution of plants and animals; Forms and functions of ecosystem; Conservation and management of ecosystems; Problems of pollution.

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. **Population Geography :** Patterns of world distribution;. Growth and density of population; Patterns and processes of migration; Demographic transition.

   Settlement Geography : Site, situation, types, size , spacing and internal morphology of rural and urban settlements; City-region; Primate city; Rank-size rule; Settlement hierarchy; Christaller's Central Place theory; August Lösch's theory of market centres.

6. **Economic Geography :** Sectors of economy : primary, secondary, tertiary and quaternary; Natural resources: renewable and non-renewable.

   Measurement of agricultural productivity and efficiency; Crop combination and diversification; Von Thünen's Model .

   Classification of industries : Weber's and Losch's approaches; Resource based and footloose industries.

   Models of transportation and transport cost : Accessibility and connectivity.

7. **Political Geography :** Heartland and Rimland theories; Boundaries and frontiers; Nature of administrative areas and Geography of public policy and finance.

   Social Geography : Ethnicity; tribe; dialect; language, caste and religion; Concept of social well-being.

   Cultural Geography : Culture-areas and cultural regions; Human races; Habitat; Economy and Society of tribal groups.

8. **Regional Planning :** Regional concept in Geography; Concept of planning regions; Types of regions; Methods of regional delineation; Regional planning in India; Indicators of development; Regional imbalances; Evolution, nature and scope of town planning with special reference to India, and Fundamentals of Town and Country planning.

9. **Geography of India :** Physiographic divisions; Climate : Its regional variations; Vegetation types and vegetation regions; Major soil types; Irrigation and agriculture; Population distribution and growth ; Settlement patterns ; Mineral and power resources; major industries and industrial regions.

10. **Cartography :** Types of maps : Techniques for the study of spatial patterns of distribution; Choropleth; Isopleth and Chorochromatic maps and pie diagrams; Mapping of location-specific data; Accessibility and flow maps.

Remote sensing and Computer application in mapping; Digital mapping; Geographic Information System (GIS) .

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.

Nearest-neighbour analysis; Scaling techniques; Rank score; Weighted score; Sampling techniques for Geographical analysis.

PAPER –II

General Aptitude (GA)

Verbal Ability: English grammar, sentence completion, verbal analogies, word groups, instructions, critical reasoning and verbal deduction.

Numerical Ability: Numerical computation, numerical estimation, numerical reasoning and data interpretation.