

**MAHARSHI DAYANAND UNIVERSITY, ROHTAK**  
**DEPARTMENT OF GEOGRAPHY**

**Subject: Syllabus for Entrance Examination for Ph. D Programme and Award of URS- Department of Geography Session 2021-22.**

The broad heading is as follows:

1. Geomorphology
2. Climatology
3. Oceanography
4. Bio-Geography
5. Geographical Thought
6. Population and Settlement Geography
7. Economic Geography
8. Political Geography
9. Social Geography
10. Regional Planning
11. Geography of India
12. Cartography
13. Statistical Methods
14. Agricultural Geography
15. Geography of Transport

Detailed contents of broad components are given below, which may be posted on the university website.

**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 Thoramwaite's schemes.

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

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

**5. 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.

**6. Population Geography and Settlement 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 Losch's theory of market Centres.

**7. 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 Thunen's Model. Classification of Industries: Weber's and Losch's approaches; Resource based and footloose industries.

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

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

**10. 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.

**11. 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.

**12. 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).

**13. 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.

**14. Agricultural Geography:** Concept and techniques of delimitation of agricultural regions; Measurement of agricultural productivity and efficiency; Crop combinations and diversification; Von Thunen’s Model; Agricultural systems of the world.

**15. Geography of Transport:** Modes of transportation, Models of transportation; Accessibility and connectivity: Inter-regional and Intra-regional.