



# S.N.D.T. WOMEN'S UNIVERSITY, MUMBAI

DEPARTMENT OF GEOGRAPHY  
POST GRADUATE STUDIES AND RESEARCH  
KARVE ROAD, PUNE – 411 038.

## ENTRANCE TEST FOR ADMISSION TO M.PHIL/ PH. D. (GEOGRAPHY)

### Syllabus for Subject Specific Test (Paper II)

#### Unit – 1

**(A) Research Methodology :** Basic concepts, Approaches and Trends in geographic research; Geographical data: Methods and techniques of utilization; Geographical variables. Hypothesis: Formulation; types and testing. Research Design; Report Writing; Use of computers in research. Recent trends in geographic research.

**(B) Statistical Methods :** Data sources and types of data; Statistical diagrams; Study of 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. Measurement of spatial patterns of distribution; Nearest-neighbour analysis; Scaling techniques, rank score, weighted score; Sampling techniques for geographical analysis.

**(C) 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).

#### Unit – 2

**(A) 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 cycles.

**(B) 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.

#### Unit – 3

**(A) Climatology :** Composition and structure of the atmosphere; Insolation; Heat budget of the earth: Distribution of temperature; Atmospheric pressure and general circulation of winds; Monsoon and jet stream; Stability and instability of the atmosphere; Air-masses ; Fronts; Tropical and temperate cyclones; Types and distribution of precipitation; Classification of world climates; Koppen's and Thornthwaite's schemes; Hydrological Cycle; Global warming.

**(B) Bio-Geography :** World distribution of plants and animals; Forms and functions of ecosystem: Forest, grassland, marine and mountain ecosystem; Bio-diversity and its depletion through natural and man-induced causes; Conservation and management of ecosystems; Environmental hazards and problems of pollution; Ozone depletion.

#### **Unit – 4**

**(A) Geographic Thought :** General character of geographic knowledge during the ancient, and medieval period; Foundations of modern geography : Contribution of German, French, British and American schools; Conceptual and methodological developments during the 20th century; Changing paradigms; man and environment, determinism and possibilism, areal differentiation and spatial organisation; Quantitative revolution; Impact of positivism, humanism, radicalism and behaviouralism in geography.

**(B) Regional Planning :** Regional concept in Geography; its application to planning; Concept of planning region; Regional hierarchy; Types of regions and methods of regional delineation; Conceptual and theoretical framework of regional planning; Regional planning in India : Concept of development; Indicators of development; Regional imbalances.

#### **Unit – 5**

**(A) Population Geography :** Nature; scope, subject matter and recent trends : patterns of world distribution, growth and density of population; Policy issues; Patterns and processes of migration; Demographic transition; population-resource regions.

**(B) Settlement Geography :** Site, situation, types, size, spacing and internal morphology of rural and urban settlements. 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.

**(C) Social Geography :** Nature and scope of social geography; Social structure and social processes; Elements of Social Geography—ethnicity, tribe, dialect, language, caste and religion; Concept of Social well-being.

**(D) Cultural Geography :** Nature and scope of cultural geography; Environment and culture; Concept of culture-areas and cultural regions; Theories of tribal groups; Dwelling places as cultural expressions.

#### **Unit – 6**

**(A) Economic Geography :** Location of economic activities and spatial organization of economies; Classification of economies; Sectors of economy : primary, secondary, tertiary and quaternary; Natural resources : Renewable and non-renewable; Conservation of resources. 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. Classification of industries : Weber's and Losch's approaches; Resource based and footloose industries. Models of transportation and transport cost; Accessibility and connectivity : Inter-regional and Intra-regional : Comparative cost advantages.

**(B) Political Geography :** Definition and scope of Political Geography; Geopolitics; Global strategic views (Heartland and Rimland theories); Concept of nation, state and nation-state; Boundaries and frontiers; Politics of world resources; Geography and Federalism.

#### **Unit – 7**

**Geography of India :** Physiographic divisions; Climate : its regional variations; Vegetation types and vegetation regions; Major soil types; Coastal and Marine resources; Water resources; Irrigation; Agriculture; Agroclimatic regions; Mineral and power resources; Major industries and industrial regions; Population distribution and growth; Settlement patterns; Regional disparities in social and economic development.