

Department of Geography Savitribai Phule Pune University

Ph.D. Entrance Exam in Geography – Paper II Syllabus

Unit-I: General Geography

1. **Geographic Thought:** General character of Geographic knowledge during the ancient and medieval period; Foundations of Modern Geography; Dualisms in Geography, Radicalism, Models, Realism in Geography.

2. **History of Cartography:** Types of maps: Techniques for the study of spatial patterns of distribution; Isolines, Choropleth; Isopleth and Chorochromatic maps; Mapping of location-specific data; Accessibility and flow maps. Remote sensing and Computer application in mapping; Digital mapping; Geographic Information System (GIS).

3. **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.

4. **Political Geography:** Heartland and Rimland theories; Boundaries and frontiers.

5. **Statistical Methods:** Quantitative Revolution, Data sources and types of data; Frequency. Measures of central, tendency; Measures of dispersion and concentration; Standard deviation; Lorenz Curve. Simple and multiple correlation and regression. Nearest-neighbour analysis. Scaling techniques. Rank score; weighted score; sampling techniques for Geographical analysis.

Unit II- Geomorphology

1. **Fundamentals:** Nature and scope of geomorphology. Basic concepts, paradigms, general system theory. Approaches and models in Geomorphology. Human activity and applied Geomorphology.


2. **Interior of the Earth, deformation and tectonics:** Physico-chemical and seismic properties of Earth's interior. Behaviour of rocks under stress – folds, joints and faults. Earthquakes. Paleomagnetism, sea floor spreading and plate tectonics.

3. **Landforms and Processes:** Physiography of the Earth; weathering, erosion, transportation and deposition – hillslopes, riverine, coastal, glacial, aeolian and tropical environments, karst and karst processes, formation of soil; landforms and river basins in India.

4. **Techniques in Geomorphology:** Geomorphological mapping, field techniques, geomorphometry, terrain analysis, sediment analysis, geostatistical methods, DEM-based studies, radiometric dating. GIS and remote sensing in geomorphology. Modeling.

5. **Environmental Change and Hazards:** Landscape evolution – role of lithology, climate, tectonics and base level; Quaternary environments, Role of human activity. Natural hazards. Environmental management.




 29/1/15
Professor & Head
Department of Geography
Savitribai Phule Pune University
Pune - 411 007

Unit : III Climatology

1. General Climatology and Synoptic Climatology: Development of modern climatology and tropical climatology. Atmosphere: composition & structure, Heat budget, Air masses, Fronts, Cyclones and anticyclones, Thunderstorms, Atmospheric circulation, Pressure and winds, Lapse rate, stability and instability of atmosphere, climate change: theories and causes. Classification of climates – Empiric & Generic, Koppen's and Thornthwaite's schemes of classification, Station Model, coding and decoding of synoptic data. Climatic maps and diagrams.

2. Monsoon Climatology: Definitions of monsoon, Historical background. Classical theory of monsoon, East and south Asian monsoon, Monsoon model: driving mechanism, realistic monsoon model, onset and withdrawal; temperature, pressure, wind distribution, Inter-seasonal and inter-annual variation, monsoon forecast. Preparation of temperature, rainfall, pressure, etc. distribution maps, Use of Tephigram,

3. Agro-meteorology and Applied Climatology: Development of agro-meteorology and applied climatology. Plants and energy related agro-meteorological elements, plants and moisture related agro-meteorological elements. Droughts, methods for computing PET. Agro-climatic classification, agro-climatic indices, comfort indices, heat and cold wave analysis, climate and architecture.

Unit : IV Population / Settlement

1. Population Geography: Nature, scope and concepts of Population Geography (fertility, mortality, migration and nuptiality). Approaches to the study of population geography. Demographic transition model of population growth, Pre-Malthusian and post-Malthusian theories. Issues and problems of population in developed and developing countries. Recent trends in population geography.

2. Urban Geography: Concepts in Urban Geography- urban hinterland, conurbation, megalopolis. Suburbanization, rural-urban divide, Gentrification, urban renewal. urbanization curve. Morphological models in urban geography, Central Place Theory. Problems of urbanization in developed and developing countries and recent trends in urban geography.

3. Rural Geography: Distribution of rural settlement, size and spacing rural settlement. Land holdings and land tenure system, concentration and dispersion of rural settlements. Challenges and problems in rural India. Recent trends in rural geography.

Unit : V Economic Geography

1. Agricultural Geography: Nature, Scope and significance of agricultural geography. Approaches to the study of agricultural geography. Factors influencing agricultural patterns – physical and non-physical determinants, agricultural regionalization. Agricultural systems of the world – nomadic herding, shifting cultivation, intensive subsistence village, mixed farming, commercial grain farming, plantation agriculture, dairy Farming.

2. Transport and Trade Geography: Meaning of transport geography. Types of transportation, transport network and its measurement. Problems of urban transport, factors associated with modes of transport. Trade definition, characteristics of trade, different trade theories, international trade.

3. Industrial Geography: Nature and scope basis of industrialization. Models of industrial location. Weber, Losch, Greenhut, and Isard's models. Industrial regions of India.



[Handwritten Signature]
29/1/15
Professor & Head
Department of Geography
Savitribai Phule Pune University
Pune - 411 007