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Syllabus for PhD Entrance Test
Subject: Geography

Geographical Thought: Nature and scope of geography; Geographic Knowledge during Ancient and Medieval Period; Foundation of Modern Geography; Contribution of German, French, British and American schools; Conceptual and Methodological Development during 20th Century, Changing Paradigm; Quantitative Revolution, Positivism, Behaviouralism, Humanism, Welfare Approach; Dichotomies in Geography; Recent Trends in Geography.

Geomorphology: Origin of solar system and the earth; Interior of the earth; Geological time scale; Origin of continents and oceans: Continental drift theory, Plate tectonics; Endogenetic forces; Earthquakes and volcanoes; Exogenetic forces: Denudational agents, Weathering Process, Mass wasting, Geomorphic processes- Fluvial, Aeolian, glacial processes: erosional and depositional landforms, Rocks and minerals: types and characteristics.

Climatology: Composition and structure of atmosphere; Elements of weather and climate; Insolation; Solar radiation and heat budget of the earth; Distribution of temperature; Atmospheric pressure and pressure belts; Atmospheric circulation: Winds- planetary, periodic and local; Atmospheric moisture- humidity, evaporation, Condensation; Air masses: origin, characteristics; Atmospheric disturbances: types, associated weather conditions and theories; Precipitation: forms and characteristics; Types of rainfall; Classification of world climates (Koeppen and Thornthwaite). Climate change.

Oceanography: Surface configuration of the ocean floor; Temperature of Oceanic water: horizontal and vertical distribution; Salinity of Oceanic water: composition, sources and horizontal and vertical distribution; Circulation of oceanic water: waves, currents, streams, drifts; Currents of Atlantic, Pacific and Indian Ocean; Tides -Causes, Types and Theories; Coral reefs: types, formation, theories; coastal environment; Marine deposits, Importance of ocean as storehouse of resources.

Environmental geography: Components of environment; Ecosystem; types and characteristics; Environmental problems: hazards and Disaster, disaster mitigation and management, Environmental pollutions and conservations methods. Sustainable development.

Population Geography: Growth of world population; Demographic transition; Distribution and density population; Population dynamics: fertility, mortality and migration- internal and international; Population policies of developed and developing countries; Population resource regions; Population theories; Urbanisation: trends and consequences.

Settlement Geography: Site, situation, size and types of settlements; types and patterns of rural settlements; Evolution and classification of urban settlement; urban fringe, city-region, urban



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continuum; settlement systems: primate city, rank-size rule, settlement hierarchy, Christaller's central place theory, August Losch's of market centres.

Cultural Geography: Human adaptation to environment; Environment and culture; Concept of cultural realms and regions; dwelling places as cultural expressions; racial classification of mankind.

Social geography: Social structure and processes; elements of social geography: ethnicity, tribe, caste, religion, language, dialect, social wellbeing.

Political geography: Concept of nation, State and nation-state; Frontiers and Boundaries; Geopolitics: Global strategic views (heartland and Rimland theories); Indian Ocean and World politics; Politics of world resources.

Economic Geography: Economic activities: location factors, types and characteristics; Mineral and energy resources: types, distribution, production and their conservation.

Agriculture Geography: Major agriculture systems: favourable conditions and distribution and production of crops; Fisheries: factors, characteristics and distribution; Agricultural regions of the world; concept and techniques of delimitation of agriculture regions; measurement of agricultural productivity, efficiency, crop combination and diversification; Von Thunen's model.

Industrial Geography: Classification of industries; Location, distribution and production of major industries- Iron and steel, (USA, Russia, Great Britain and Germany); Textile: cotton and woollen - (USA, Great Britain, China and Japan); Petro-chemical; Industrial regions of the world.

Transport Geography: Major transportation types: Land, Air and Water; Factors affecting transportations and their significance; Accessibility and connectivity: inter-regional and intra-regional; Comparative cost advantage; International trade, Impact of globalization on economic development.

Regional Planning and Development: Regional concept in geography its application in planning; regional hierarchy: types of regions and delimitation of region; regional planning: conceptual framework; concept of planning region; regional planning in India: approaches and methods; regional development; regional disparities.

Geography of India: Locational characteristics; Relief and Physiographic Divisions; Drainage systems; Climatic characterises- Indian monsoon; Climatic regions (Koeppen); Vegetation: types and distribution; Soils: major types and their distribution; Water resource; Natural hazards and disasters. Mineral resources and energy resources: distribution, production, trade and their conservation; Agriculture: favourable conditions and distribution of major crops; agricultural

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characteristics, development and problems; Agro-climatic regions; Major industries: location factors, distribution and problems; industrial regions; special economic zones; Population distribution, density and growth; Composition of population; Population problems and policies; Migration and its consequences; Rural settlements in India: types, patterns and distribution; urban settlements: types, distribution and functional classification; Transport and communication: roads, railways, waterways and airways: International trade; sea-ports and airports. Globalisation; Human development in India

Cartography

Maps: types and characteristics, map scale: types and methods; topographical sheets: numbering system and characteristics, Distribution maps; Map Projection: classification and characteristics; Weather maps and instruments; Surveying- Chain and Tap, Prismatic, Plane Table and Theodolite Surveying; Application of Remote sensing, GIS and GPS techniques in geography; Data: sources, types and their graphical representation; Measures of central tendency and dispersion; Correlation and regression analysis; Nearest neighbour analysis; Network analysis; Measures of inequality-Lorenz curve and Gini-coefficient.

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