SYLLABUS

GEOGRAPHY PAPER – 1

PART: I- DEVELOPMENT OF GEOGRAPHICAL THOUGHT AND RESEARCH METHODOLOGY

Unit – I

History of Geographic Thought: Development of geographical knowledge during ancient and medieval period; Contributions of Greek, Roman and Arab geographers. Foundations of modern geography; Contributions of German, French, British and American schools. Development of geographical knowledge in India. Conceptual and methodological developments during the 20th century with changing paradigms; determinism and possibilism, quantitative revolution and impact of positivism, behaviouralism, humanism, radicalism and welfare approach in geography. Concepts of chorological science, areal differentiation, system analysis and spatial organization.

Unit – II

Research Methodology: Meaning, types and significance of Research, Research approaches; deductive and inductive, Concept of qualitative and quantitative research, Identification of research problem, Research design, Types of data, Data collection; questionnaire and schedule, Research methodology and research methods, Bi-variate and multivariate analysis, Sampling fundamentals and sampling design, Data analysis, Interpretation and report-writing, Plagiarism, Research ethics, Citing of references.

PART: II- PHYSICAL GEOGRAPHY

Unit – III

Geomorphology: Fundamental Concepts of Geomorphology, Geological time scale, Processes of development of land forms; Endogenetic and exogenetic forces, Orogenesis and important phases of mountain building, Mountain building theories, Continental drift and plate tectonics, Denudation processes; weathering and erosion, Concept of geomorphic cycles; Davis and Penk, Landforms associated with fluvial, glacial, arid, coastal and karst cycles, Slope forms and concepts of slope evolution, Environmental and Applied geomorphology and Geomorphic hazards.

Unit – IV

Climatology: Composition and structure of atmosphere, Insolation, Heat budget, Distribution of temperature, atmospheric pressure and general circulation of winds; Monsoons and jet streams, Stability and instability of atmosphere, Air-masses and fronts, Temperate and tropical cyclones, Types and distribution of precipitation, Classification of world climates; Koppen's and Thornthwatte's schemes and Hydrological cycle.

Unit – V

Oceanography: Relief of Oceans; hypsometric curve, Bottom relief of Indian, Atlantic and Pacific oceans, Ocean deposits, Coral reefs, Temperature, density and salinity of oceans, Ocean circulations; tides and ocean currents, Sea-level changes, Marine resources and their utilization.

Unit – VI

Environment Geography: Components of environment and ecology, Physical factors influencing world distribution of plants and animals, Types, forms and functions of ecosystem; forest, grassland, marine, desert and mountain ecosystems, Bio-diversity; depletion and conservation, Environmental pollution; types, causes, effects and solutions, Climate change; global warming and ozone depletion, Environmental hazards and disasters; types, effects and management and Environmental Impact Assessment (EIA).

PART: III- PRACTICAL GEOGRAPHY

Unit – VII

Cartography: Types of maps and their interpretation, single purpose and composite maps; choropleth, isopleth and chorochromatic maps, Statistical diagrams; one, two and three dimensional diagrams, Climatic graphs; climograph, hyther graph and climatograph, Map projections; classification and their specific uses and Toposheets; Traditional and Open Series Maps (OSM).

Unit – VIII

Geospatial Techniques: Remote sensing and computer application in mapping; digital mapping, electro-magnetic radiations, Remote sensing systems; platforms, sensors, resolution and radiometric characteristics, Digital Elevation Model, Application of remote sensing in the study of land use, land cover and resource planning, Introduction to Geographic Information System (GIS), Fundamentals of GIS; geo-spatial databases, data capture, Raster and vector data, Implications of integration of remote sensing and GIS and Global Positioning System (GPS).

Unit – IX

Statistical Method: Data tabulation, Study of frequency distribution, Measures of central tendency, Selection of class intervals for mapping, Measures of dispersion and concentration; standard deviation, Lorenz curve and Gini's coefficient; Methods of measuring association, simple and multiple correlation and regression. Measurement of spatial patterns of distribution; nearest-neighbour analysis, Scaling techniques; rank score and weighted score; Sampling techniques for geographical analysis and Models in geography; Simulation model, Gravity model.