

**Syllabus
for
Geography (HUQP08)**

Geography (HUQP08)

Note:

- i. There will be one Question Paper which will have 100 questions.*
- ii. All questions will be compulsory.*
- iii. The Question Paper will have two Parts i.e. Part A and Part B:*
- iv. Part A will have 25 questions based on Language Comprehension/Verbal Ability, General Awareness, Mathematical/Quantitative ability and Analytical Skills.*
- v. Part B will have 75 questions based on Subject-Specific Knowledge.*

Geography (HUQP08)

PART-A PHYSICAL GEOGRAPHY

Section I: Geomorphology

Solar system and the Earth - Origin of the earth: important theories - Earth's interior - Geological time scale - Earth's Materials and minerals - Rocks classification and characteristics - Earth surface configuration - Order of landforms - Wegner's theory - Plate tectonics.

Endogenic processes: Folds, Fault, Dome and their resultant landforms - Earthquakes and Volcanic activities: causes, resultant landforms and world distribution.

Exogenic processes: Weathering, Mass wasting and resultant landforms - Formation of regolith and soil - Geomorphic agents and processes: Fluvial, Glacial, Coastal, Arid and Karst landforms - Geomorphic hazards and their effects

Section II: Climatology

Elements of weather and climate –

Composition and Structure of the Atmosphere - Heat budget

Atmospheric pressure: Vertical and horizontal distribution - Winds and their causes of circulation - Types of planetary, Periodic and local winds - Temperature: factors and distribution
- Temperature inversion

Atmosphere moisture: Humidity, evaporation and condensation - Hydrological cycle - Types, regional and seasonal distribution - Monsoon

Air masses and Fronts- Atmospheric disturbances: Tropical and Temperate cyclones- Anti- cyclones - El-Nino-Southern Oscillation (ENSO) - Recent climatic variability phenomenon

Climatic classification - Basis of Koppen's and Thornthwaite's classification - Role of climate in Human life
- Atmospheric pollution and global warming: general causes and consequences

Section III: Oceanography

Surface configuration of the ocean floor - Hypsographic curve: continental shelf, continental slope, abyssal plain, trenches and deeps - Relief of Atlantic, Pacific, and Indian Oceans

Distribution of temperature and salinity of oceans and seas - Circulation of oceanic waters, waves and currents - Currents of Atlantic, Pacific and Indian oceans - Tides: causes, types and theories.

Marine deposits - Coral reefs: types and their formation - Coastal environment - Ocean as store house of resources for the future

Section IV: Biogeography

Biosphere: Meaning and concept - Components of ecosystem and ecology - Biomes: World major biomes and their characteristics

Functions: Trophic levels, energy flows, cycles (geo-chemical, carbon, nitrogen and oxygen), food chain, food web and ecological pyramid

Human interaction and impacts - Environmental ethics - Environmental hazards and disasters (global warming, urban heat island, atmospheric pollution, water pollution, land degradation). Environmental policies - Environmental impact assessment

Section V: Physical Geography of India

Land of diversities - Geological structure - Physical features and divisions - Drainage pattern - Soil types and distribution - Natural vegetation

Climate: Seasons - Monsoon (origin, regional and seasonal variations) - Distribution of temperature and rainfall - Local winds

Mineral and power resources: Major types and their potential, distribution and production – Sources of non-conventional energy

PART-B HUMAN GEOGRAPHY

Section V Geographic Thought

Nature and scope of geography - A brief historical overview of geography as a discipline – Branches of geography: general characteristics and inter-relationships

Contributions of Greek, Roman, Arab, Chinese and Indian Scholars - Contributors for the development of modern geography - Recent Trends in Geography

Dualisms in geographic studies (physical vs. human, regional vs. systematic, qualitative vs. quantitative, ideographic vs. nomothetic) – Paradigm shift - Perspectives in geography (positivism, behaviouralism, humanism, structuralism, feminism and postmodernism)

Section VII: Population Geography

Division of mankind - Racial groups and culture: systems, characteristics and distribution - Human Adaptation to the environment - Adaptation in modern society - Globalization and cultural change - Language, communication and belief

Distribution and density of population: Factors, growth and distribution- Population composition -Population theories - Health and wellbeing

Migration: Internal and international - Settlements: rural and urban - Urbanization process - Patterns and world distribution – Population policies

Electoral geography – Frontiers and Boundaries- Geopolitics and world order – Geopolitical conflicts

Section VIII: Geography of Resources

Nature and components of resources - Resources and environment interface - Classification of resources: renewable and non-renewable, biotic and abiotic resources

Water, forests and soil resources: Types, distribution, economic and environmental significance - problems of deforestation, soil erosion and water pollution

Exploitation of natural resources - Impact of Human activities: deforestation, mining, agriculture and industrialization on environment- Population pressure and resources utilization - Population explosion and food security Environmental hazards: pollution and its related problems
-Emerging environmental problems - Global warming - Environmental conservation, preservation, and sustainable resource use

Section IX: Economic Geography

Sectors of economic activity: Primary, Secondary and Tertiary - Favourable geographical conditions for different economic activities

Agriculture: Primary crops (wheat, rice and maize), commercial crops (cotton, sugarcane, tea, coffee, rubber) distribution and production - Livestock and Fisheries-Important fishing grounds

Mining economy: Factors governing the exploitation of minerals - World reserves and production of Iron ore, Manganese, Bauxite and Copper

Fuel and power resources of the world - Distribution and production of coal, petroleum, hydroelectric power, atomic energy and non-conventional sources of energy

Manufacturing industries: Factors affecting location - growth and distribution of major industries - World production and distribution.

Nature and trends in the International trade - World trade of wheat, cotton, tea, coffee, petroleum, gold, silver, gems and jewelry.

Transport: Relative significance of different means of transport - Factors affecting land, water and air transport - World oceanic routes - Important inland waterways and important canals - Impact of globalization on world economy

Section X: Human Geography of India

Cultural landscape: Population growth, distribution and density - Population composition - Settlements and Urbanization

Agriculture: Major crops, impact of green revolution, Regionalization of Indian agriculture

Industrial development - Location and distribution of iron and steel, cement, cotton textile and sugar industry - Industrial Regions and their characteristics - Industrial Policies in India

Transport Networks (railways, roadways, waterways, airways and pipelines) - International Internal and External Trade (trend, composition and directions)

Regional development planning in India - Globalisation and its impact on Indian Economy - Changing nature of Indian economy - Socio-economic development - Impact of development on environment and natural resources

PART-C GEOGRAPHICAL TECHNIQUES

Section XI: Cartography

Elements of Map Science - Concepts of scale and map - Types of maps and scales - Construction of graphic/linear scales - Enlargement and reduction of maps: methods and procedures - Map compilation and generalization.

General principles and classification of projections: construction, properties, limitations and uses of Zenithal, Conical and Cylindrical projections.

Methods of showing relief- (hachure, shading, and contours) - Contour interpolation - Profiles: drawing of profiles and their relevance in landforms mapping and analysis - Identification of different rocks-SOI Toposheets - Interpretation of physical and cultural topographic sheets.

Methods and instruments for collection of weather data - Construction of climograph and hythergraph, isotherm, isobars and isohyets - Preparation of weather maps-Symbols used in weather maps - Interpretation of Indian daily weather maps.

Mapping techniques of population, social, economic and cultural data - dot, isopleth, and choropleth methods.

Section XII: Surveying Techniques

Basic principles of surveying - Types of surveying - Surveying instruments - Basic principles of field work - Techniques in physical and socio-economic field surveys- Data collection methods.

Chain and tape survey - Prismatic compass survey - Plane Table survey- Levelling techniques -Electronic surveying instruments (Theodolite and electronic devices)

Section XIII: Statistical Techniques

Statistical Methods: Frequency distribution and histograms - Measures of central tendency and dispersion - Diagrammatic representation of geographical and statistical data.

Geography (HUQP08)

Sampling Techniques - Tests of significance - Probability distributions: normal, binominal andPoisson-parametric and non-parametric tests-Correlation and regression.

Section XIV: Remote Sensing and GIS

Remote sensing principles - Types of remote sensing - Aerial photography-Satellite images - Application of Remote Sensing Techniques

Components and function of GIS - Spatial and non-spatial data - Vector and raster format - GIS analysis - Application of GIS

Basic principles of Global Navigation Satellite System- Segments and applications.