
Geography

Section I

Physical Geography : Lithosphere

I
The nature and scope of Physical Geography. Solar system and the Earth; Origin of the earth - important theories - Nebular, Tidal, Planetesimal, Supernova and Otto Schmidt.

II
The constitution of the earth's interior, Age of the earth, Geological time scale.

Origin of the Continents and Oceans: Wegner's theory. Plate tectonics and Earth surface configuration, major and minor plates of the world and types of plate margins

III
Major second order Land forms: Mountains, Plateaus, Plains and Lakes their classification and distribution.

Earth's Materials: Rocks- their origin, classification and characteristics, Formation of regolith and soil.

Suggested Readings


Section II

Elements of Geography

I

Branches of Physical Geography- their general characteristics and inter-relationships.
Branches of Human Geography- their general characteristics and inter-relationships.

II

III
Application of Geography in various fields such as agriculture. Mining, Resource evolution. Recent Trends in Geography.

Suggested Readings


Section III

I
The nature and scope of cartography. Types of Maps and Scientific method of letter writing. Scale: Statement scale, Representative Fraction (R.F.) and Graphical scale.

II
Construction of Graphic / Linear Scale: Simple, Comparative, Diagonal and Time scale.

III
Enlargement and reduction of Maps: Graphical – Square & Similar Triangle Method; Mechanical methods.
Identification of different rocks: Igneous, Sedimentary and Metamorphic Granite, Basalt, Pegmatite, Conglomerate, Sandstones, Limestone, Marble, Gneiss Schist, Slate
Section IV

I

II
Earth dynamics: Earthquakes and Volcanic activities, causes, their resultant landforms and world distribution.
Exogenetic processes of earth- Weathering processes: Physical, Chemical and Biological. Mass wasting and their resultant landforms.

III
Geomorphic hazards: Earthquake, Volcanic eruption, Landslide and Flood - their effects and assessment. Application of geomorphology in settlements, mining, landuse, transport - road and railway lines.

Suggested Readings:


Section V

Human Geography
Nature and scope of human Geography. Division of Mankind into racial groups—
their characteristics and distribution. Human Adaptation to the environment (i)
Cold region- Eskimo (ii) Hot region- Bushman, Badawins (iii) Humid region-Pigmy

II
Human adaptation to the environment (i) Plateau-Gonds, Massi (ii) Mountain-
Gujjars nomads, (iii) Regions of recurrent floods, droughts and other cultural
hazards, Adaptation in modern society.

Distribution and density of population: Factors of population distribution – physical,

III
Migration- internal and international, Settlements-rural and urban, patterns and world
distribution.

Population conflict resolution in developed and developing world. Geo-political
conflicts. Frontiers and Boundaries, Indian ocean and World politics.

Suggested Readings:

Section VI

I
Diagrammatic Representation of geographical data-types of diagram’s, bar and column
charts. Simple Line graph and Compound graph.

II
Methods of showing relief- (Hachure, Shading, and Contours). Representation of
different landforms by contours. Contours interpolation. Drawing of profiles cross and
long profiles and their relevance in landforms mapping and analysis.

III
Surveying- Basic principles of surveying; Types of surveying, surveying by chain and
tape: one and two base lines (Tie line).
Section VII

Physical Geography: Climatology

I
Definition and significance of climatology. Elements of weather and climate, composition and structure of the atmosphere.

II

III
Air masses and Fronts- Origin, classification and characteristic’s. Atmospheric disturbances: Cyclone- Tropical cyclone, Temperate cyclone-theories of their origin and associated weather conditions.

Section VIII

Economic Geography

I
Definition and scope of economic geography. Sectors of economic activity-Primary, Secondary and Tertiary.
Agriculture: Primary crops – wheat, rice and maize.

III
Fuel and Power resources of the world. World distribution and production of coal, petroleum and hydroelectric power. World potential and development of atomic energy and non-conventional sources of energy.

Suggested Readings:

Section IX

I
Representation of Temperature pressure and Rainfall data, Line and Bar graph, Isotherm, Isobars and Isohyets.

II
Representation of statistical data - Circle diagram, Sector diagram, Age and Sex pyramid.

III
Classification of Indian Meteorological Observatories and method of collection of weather data. Construction and significance of Climograph and Hythergraph.

Suggested Readings:

Section X
Physical Geography: Oceanography
I
Significance of Oceanography, surface configuration of the ocean floor, Hypsographic curve -continental self, continental slope, abyssal plain, trenches and deeps.

Relief of Atlantic, Pacific, and Indian Oceans with illustration.

II
Distribution of Temperature and Salinity of oceans and seas and their importance to human life with special reference to activities of costal areas Circulation of oceanic waters, waves and currents, currents of Atlantic, Pacific and Indian oceans.

III
Tides –Causes, Types and Theories.
Marine deposits- Coral reefs-types and their formation, theories of coral reefs formation, costal environment, ocean as store house of resources for the future.

Suggested Readings:
Singh Savindra: Climatology, Prayaga Pustak Bhawan, Allahabad 2006.

Section XI
Economic Geography

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

II
Manufacturing industries- factors affecting location, growth and distribution of Iron and steel industry in USA, Russia, Great Britain and Germany. Factors affecting location, Growth and distribution of Cotton textile industry in USA, Great Britain, China, Japan. Woollen textile industry - location and world distribution.

III
Nature and trends in the International trade, World trade of wheat, cotton, tea, coffee, petroleum, gold, silver, gems and jewellery, etc.
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.

Suggested Readings:


Section XII

I

Representation and analysis of Relief: Profile, Serial, Longitudinal, Superimposed composite, projected and their use in landform analysis,

II

Use of Meteorological instruments: Maximum and minimum Thermometer, Dry and Wet Bulb Thermometer, Fortin’s Barometer, Aneroid Barometer, Rain Gauge, Wind Vane, Anemometer.

Weather maps: Preparation of weather maps in India; Symbols used in weather maps; Interpretation of Indian daily Weather maps published by the Indian Meteorological Department.

III

Survey- Prismatic compass survey, Radiation and Inter-section methods.

Suggested Readings:


Section XIII

Geography of India: Physical Aspects
Locational characteristics; land of diversities and unity in diversity; Physical features—relief and physiographic character. Drainage pattern.

Climate: origin of monsoon, regional and seasonal variation.

II
Soils types: their characteristic and distribution.

Mineral resources: Iron-ore, Manganese, Bauxite and Copper.

III
Power resources: Coal, Petroleum, Hydroelectric power. Development of power resources; Sources of non-conventional energy.

Water resources: availability, utilization, conservation methods—rain harvesting and watershed management.

Suggested Readings:


Section XIV
Resources & Environment

I
Meaning, nature and components of resources and environment. Resources and environment interface. Classification of resources—renewable and non-renewable, biotic and abiotic resources.

II
Water resources their economic and environmental significance and conservation methods.

Minerals and energy resources their economic and environmental significance and conservation.
Types and distribution of forests - their economic and environmental significance and conservation.
Major soil types and their distribution, problems of soil erosion and soil conservation.
Fisheries- their economic and environmental significance and conservation.

Suggested Readings:

Section XV

I

II
Conical projections: One standard parallel, Two standard parallels, Bonne’s and Polyconic. Simple cylindrical projection, Equal area cylindrical projection.

III
Mapping Techniques: Mapping of population data, Social, Economic and Physical Data employing Dot, Isopleth, and Choropleth method.

Suggested Readings:

Section XVI
Geography of India: People and Economy
Cultural landscape: Population distribution and density, and its growth, urbanization.

Changing nature of Indian economy; Agriculture: Major crops- wheat, rice, cotton, tea; impact of green revolution, Regionalization of Indian agriculture.

II

Industrial development-location and distribution of iron and steel, cement, cotton textile and sugar industry.

III

International trade; Socio-economic development-impact of development on environment and globalization.

Geography of Madhya Pradesh: Physical features, Climate, Forests, Power resources, Agriculture and Industries.

Suggested Readings:


Mukherjee, A.B. & A. Aljazuddin, eds.: India- Culture, Society & Economy. Inter India, New Delhi.


Section XVII

Resources and Environment

I


II

Impact of Human activities: deforestation, mining, agriculture and industrialization on environment. Environmental conservation, preservation, and sustainable resource use.

Suggested Readings:


Section XVIII

I

Statistical Methods: Measures of central tendency- Mean, Median, and Mode; Standard Deviation.

II

Topographic maps: classification and numbering; Interpretation of physical and cultural topographic sheets. Aerial photograph and remote sensing & GIS.

III

Surveying : Plane Table survey by intersection, and Resection methods.

One day field excursion visit of any specific geographical unit & their report/village survey report.

Suggested Readings:

