

LEARNING OUTCOMES

PART - I

FUNDAMENTALS OF PHYSICAL GEOGRAPHY

01. Geography as a Discipline

- 1.1 Establish the relationship between physical and cultural environment and explain the importance of Geography as a discipline.
- 1.2 Classify the fields related to Geography and identify the different disciplines associated with Geography
- 1.3 Construct a flow chart showing branches and sub branches of geography based on two approaches
- 1.4 Explain the importance of Physical geography in evaluating and managing natural resources

02. The Origin and Evolution of the Earth

- 2.1 List out and explain the various hypotheses regarding the origin of the earth
- 2.2 Illustrate the stages of evolution of Universe
- 2.3 Classify the planets in to terrestrial and Jovian and can distinguish them
- 2.4 Realize the fact that the existence of the biosphere depends on the other three spheres and hence expresses the positive attitude towards the conservation of environment through various club activities

03. Interior of the Earth

- 3.1 Listing out and explain evidences regarding the interior of the earth.
- 3.2 Distinguish the focus and epicenter of an earthquake, classify the types of earthquake waves with their properties and illustrate the shadow zone

- 3.3 Classify earthquakes based on their causes, recognize different methods of measuring earthquakes and list out the effects of earthquakes
- 3.4 Differentiate the layers of the earth and explain its properties with illustration
- 3.5 Distinguish the types of volcanoes, illustrate and describe the intrusive igneous landforms

04. Distribution of Oceans and Continents

- 4.1 Illustrate and describe the stages of continental drift, list out the arguments in support and against this hypothesis
- 4.2 Describe convection current theory, illustrate bottom topography of oceans, and locate the pattern of distribution of volcanoes and earthquake on a world map
- 4.3 Explain the concept of seafloor spreading and list out its evidences
- 4.4 Explain the theory of plate tectonics and mark the plate boundaries on the outline map of the world
- 4.5 Illustrate and explain the formation of Indian subcontinent

05. Minerals and Rocks

- 5.1 Explain the composition of the earth's crust in terms of major elements as well as minerals
- 5.2 Identify and explain the physical characteristics of minerals
- 5.3 Distinguish metallic and non-metallic minerals
- 5.4 List out different types of rocks and compare their formation
- 5.5 Illustrate and explain the cyclic relationship between different types of rocks.

06. Geomorphic Processes

- 6.1 Explain and classify geomorphic processes
- 6.2 List out and explain endogenic processes
- 6.3 List out and describe the various exogenic processes and recognizes the need to reduce human activities leading to hazards such as landslides, erosion etc.

6.4 Explain soil formation and analyze various soil forming factors

07. Landforms and their Evolution

7.1 Explain the distinction between a landform and a landscape and list out the different landforms coming under each landscape

7.2 Describe the three stages of running water and list different landforms in each stage

7.3 Explain and classify the fluvial landform into erosional and depositional and make models of it.

7.4 Recognize and illustrate the various landforms associated with Ground Water

7.5 Identify and explain various Glacial Landforms and makes models on them.

7.6 List out the various landforms associated with waves and currents and prepares a picture album on it.

7.7 Appraise and illustrate the wind as a major agent in the formation of landform.

08. Composition and Structure of Atmosphere

8.1 List out the constituent gases and recognize the significance of water vapour and dust particles in the atmosphere

8.2 Illustrate and explain different levels of atmosphere

8.3 Distinguish weather and climate and identify the elements of weather and climate

09. Solar Radiation, Heat Balance and Temperature

9.1 Explain insolation and illustrate aphelion and perihelion

9.2 List out and explain the causes of spatial and temporal variation of temperature on earth

9.3 Illustrate the methods of heat transfer in the atmosphere

9.4 Illustrate and explain how the temperature is balanced in the atmosphere

9.5 List out and explain the different factors controlling the distribution of temperature

- 9.6 Make inferences on the distribution of temperature from an isotherm map

10. Atmospheric Circulation and Weather Systems

- 10.1 Describe vertical and horizontal distribution of atmospheric pressure
- 10.2 Illustrate pressure belts and explain the world distribution of sea level pressure
- 10.3 Recognize and describe the factors affecting velocity and direction of wind
- 10.4 Demarcate global pressure cells on a diagram showing pressure belts and explain Hadley cell, Ferrel cell and Polar cell
- 10.5 Illustrate the direction of monsoon winds; Land and Sea breezes; Mountain and valley breezes and can explain their mechanism
- 10.6 Classify air masses, illustrate fronts and describe different types of cyclones

11. Water in the Atmosphere

- 11.1 Explain the concepts of evaporation, humidity, and condensation and analyze their interrelationship
- 11.2 Distinguish the different forms of condensation
- 11.3 Classify different types of clouds on the basis of their extent and shape
- 11.4 Explain different forms of precipitation illustrate the types of rainfall and classify the rainfall regions

12. World Climate and Climate Change

- 12.1 Classify world climate and explain climate types based on Koeppen's scheme
- 12.2 Explain the causes and consequences of climate change and suggest measures to overcome global warming

13. Water (Oceans)

- 13.1 Illustrate and explain hydrological cycle

- 13.2 Identify and distinguish the major and minor submarine relief features
- 13.3 List out and explain the factors responsible for distribution of Temperature over oceans
- 13.4 Analyze the vertical and horizontal distribution of temperature in the oceans
- 13.5 Explain salinity and list out the factors influencing salinity

14. Movements of Ocean Water

- 14.1 Explain the characteristics of waves and illustrate the structure of waves
- 14.2 Illustrate and explain the types of tides
- 14.3 Classify ocean currents, label the major ocean currents and explain the factors influencing ocean currents

15. Life on the Earth

- 15.1 Explain the ecological adaptation
- 15.2 Explain the types, structure and functions of ecosystem
- 15.3 Classify the world biomes and differentiate them
- 15.4 Create a flow chart on biogeochemical cycles and explain it
- 15.5 Recognize the need to conserve the ecological balance for the sustenance of life on earth

16. Biodiversity and Conservation

- 16.1 Explain the levels of biodiversity
- 16.2 Evaluate the role of Biodiversity in the sustenance of man
- 16.3 Categorize the threatened species and express the attitude towards the Conservation of biodiversity

PART - II

INDIA-PHYSICAL ENVIRONMENT

01. India - Location

- 1.1 Interpret the location aspects of India through map reading.
- 1.2 Map and describe the general physical features of India
- 1.3 Classify the neighboring countries of India based on the nature of boundaries.

02. Structure and Physiography

- 2.1 Classify India into three geological regions and describe the physical features related to these regions.
- 2.2 Map the major physiographical divisions of India and describe the characteristic features of each.

03. Drainage System

- 3.1 Describe the meaning of drainage system and pattern.
- 3.2 Illustrate the major Himalayan and peninsular rivers on a map of India.
- 3.3 Identify, locate and explain the characteristics of Himalayan and peninsular rivers.
- 3.4 Locate major Himalayan and peninsular rivers in an outline map of India.
- 3.5 Define the river regime; analyze the causes of varying regimes and problems in using river water.

04. Climate

- 4.1 Appraise the unity of Indian monsoon climate despite the regional variation in temperature and rainfall.
- 4.2 Identify and explain different factors controlling the climate of India.
- 4.3 Recognize and distinguish the mechanisms of weather in winter and summer seasons.
- 4.4 Analyze the nature of Indian monsoon

- 4.5 Describe the characteristics of Indian seasons and compare the conventional seasons with the traditional Indian seasons
- 4.6 Demarcate the rainfall regions and explain the spatial variations in the distribution of rainfall.
- 4.7 List out and explain the climatic regions of India according to Koeppens' scheme of classification.
- 4.8 Recognize the influence of monsoon in the economic life of India
- 4.9 Express the positive attitudes against Global climatic change.

05. Soils

- 5.1 Explain the importance of soils and illustrates soil horizons.
- 5.2 Classify and explain the characteristics of types of soils, and also locate it on a map of India.
- 5.3 List out problem of soil degradation/ erosion.
- 5.4 Recognize the need of conservation of soil and enlist different methods of soil conservation.

06. Natural Vegetation

- 6.1 Map the natural vegetation types in India and describe about them.
- 6.2 Analyze the land cover data and recognize the need of conservation of our natural vegetation.
- 6.3 Recognize the wildlife types and explains the reasons for declining wildlife and list the conservational measures used.
- 6.4 Locate the biosphere reserves and explains about each.

07. Natural Hazards and Disasters

- 7.1 Explain and classify Natural Hazards and Disasters.
- 7.2 Describe the factors of major natural disasters in India and mark the zones of such disaster prone areas in maps.
- 7.3 Suggest suitable steps for mitigation and managements of natural disaster.