

Total number of printed pages-4

14 (GGY-4) 4176

2024

GEOGRAPHY

Paper : GGY-4176

(Environment and Climate Change)

Full Marks : 80

Time : Four hours

**The figures in the margin indicate
full marks for the questions.**

UNIT-I

(Marks : 40)

Answer question no. 1 and **any three** from the rest.

1. Discuss the impact of deforestation on biodiversity in the North-East India. 16

Or

Formulate an environmentally sustainable development plan that respects the local community's rights and contributes to the conservation of the forest.

Contd.

2. Given a geographical region, demonstrate how you would use scientific method to assess the impact of human activities on its ecology. Define the steps and key considerations. 8
3. What are the environmental values of a forest in North-East India? Give a list of ecosystem services forest provides. 8
4. How does the traditional ecological knowledge and belief systems of tribal communities in North-East India contribute to the sustainable management and conservation of their surrounding environments such as land, water, and forest? Include examples in your explanation. 8
5. Write short notes on **any two** of the following: 4×2=8
 - (a) Impact of human activities on the biodiversity of a forest ecosystem
 - (b) Fuelwood as a source of energy and its effects.
 - (c) Deep ecology

UNIT-II

(Marks : 40)

Answer question no. 6 and **any three** from the rest.

6. Consider factors such as the El Niño Southern Oscillation (ENSO), Walker Circulation, Solar cycles, and the Milankovich cycle on the climate variability on earth. 16

Or

Describe, in detail, the roles of IPCC in formulating and implementing strategies for climate change mitigation and adaptation. Explain also how these strategies are applied on a global, sectorial, and regional level.

7. Using one of the climate models you have studied, project the possible climate changes on global sectorial scales due to increased concentrations of Anthropogenic greenhouse-Kyoto gases in the atmosphere. Provide detailed explanations of your results. 8
8. Analyse the role of Walker Circulation in determining climate anomalies, particularly focusing on El Niño Southern Oscillation (ENSO). Discuss how ENSO might be affected by climate change. 8

9. State the characteristics and effects of aerosols on weather and climate. 8
10. Write short notes on **any two** of the following: 4×2=8
- (a) Limitations of climate models
 - (b) Walker Circulation
 - (c) Kyoto Protocol
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