

M.Sc.(Geology) (NEP Pattern) - Semester-III  
**PSCGEOT09 - Environmental and Engineering Geology**

P. Pages : 2

Time : Three Hours



**GUG/W/24/16004**

Max. Marks : 80

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- Notes : 1. All questions are compulsory and carry equal marks.  
2. Draw neat sketches wherever necessary.

1. Explain the methodology used for estimating paleotemperatures from ice cores.  
How do these estimations contribute to our understanding of past climate conditions?

**OR**

Discuss the following in brief:

- a) Mining and Ecosystems
  - b) Biological domain of the environment
  - c) Ice core analysis
  - d) Impacts of global warming on polar ice caps and global sea levels.
2. Evaluate the various methods of waste disposal and their related problems and suggest improvements for sustainable waste management.

**OR**

Give a brief account of the following:

- a) Environmental problems associated with plastic waste and potential solutions.
  - b) Causes of landslides.
  - c) Benefits of hydroelectric power generation.
  - d) Environmental implications of human population growth on natural resources.
3. Discuss the physical properties that make certain types of stones suitable for building materials.

**OR**

Give a short account of the following:

- a) Scope of Geology in Civil Engineering.

- b) Role of stratigraphy in Engineering.
- c) Physical characteristics of metal and concrete aggregates.
- d) Geophysics in engineering investigations.

4. Explain the geological considerations for tunnel construction, including rock type assessments and fault analysis.

**OR**

Explain the following in brief:

- a) Shoreline engineering
- b) Aseismic Design Principles
- c) RQD analysis
- d) Seismic zones of India.

5. Write short notes on:

- a) Environmental geology
- b) Soil contaminant
- c) Tidal energy
- d) Coastal erosion
- e) Plasticity
- f) Shear strength
- g) Landslides
- h) Earthquake

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