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**PGIS-027-A-22**  
**M.Sc. I Semester Degree Examination**  
**ENVIRONMENTAL SCIENCE**  
**Environments and Ecosystem**  
**(Scheme CBCS)**  
**Paper : HCT 1.1**

**Time : 3 Hours**

**Maximum Marks : 80**

**Instructions to Candidates :**

**Answer all Sections. Section-A is compulsory.**

**SECTION - A**

**Answer any TEN of the following.**

**(10×2=20)**

1. a) Define environment and ecosystem.
- b) Closed and open system.
- c) Second law of thermodynamics
- d) Types of abiotic components
- e) Secondary succession.
- f) Solar energy.
- g) Salient feature of biomes
- h) Grassland and Deserts.
- i) Components of biosphere.
- j) Ecotone and edge effect.
- k) Emigration
- l) Community analysis

**SECTION - B**

**Answer any SIX of the following.**

**(6×5=30)**

2. Differentiate between biotic and abiotic components.
3. Explain the commensalism and parasitism in detail.

4. Elaborate the concept of "Energy of Life".
5. What is Growth theory ? Explain.
6. Explain the nitrogen cycle with illustration.
7. What is oceanic current? Explain the types and importance.
8. Describe the estuaries and marine ecosystem in brief with suitable examples.
9. Explain the concept of ecological dominance.

**SECTION - C**

**Answer All the following**

**(3×10=30)**

10. a) Explain the different interactions involved among living organisms.  

**(OR)**

b) Elaborate how carbon cycle and phosphorus cycle occur with illustrations.
11. a) Describe any five major terrestrial biomes with example.  

**(OR)**

b) Differentiate food chain and food web with examples. Explain ecological pyramids.
12. a) Explain the population attributes of north polar region.  

**(OR)**

b) Explain the importance of ecological indicators in ecosystem.

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**PGIS-028-A-22**

**M.Sc. I Semester (CBCS) Degree Examination**

**ENVIRONMENTAL SCIENCE**

**Environmental Geosciences**

**Paper : HCT 1.2**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

**Answer All Sections. Section-A is compulsory.**

**SECTION - A**

**Answer any TEN of the following.**

**(10×2=20)**

1. a) Mantle
- b) Magma
- c) Climate
- d) Conservation
- e) Mineral
- f) Land use
- g) Loam
- h) Vulnerability
- i) Mitigation
- j) Disaster
- k) Migration
- l) Control Segment

## SECTION - B

Answer any SIX of the following.

(6×5=30)

2. Give an account on plate tectonics.
3. Briefly describe conservations of water resources.
4. Explain influence of biochemical factors on environmental health.
5. Give comments on land degradation cycle.
6. Give an account of soil formation
7. Write a note on components of disaster management cycle.
8. Define remote sensing with examples.
9. Write a note on various natural disasters.

## SECTION - C

Answer All the following

(3×10=30)

10. a) Write in detail on mineral resources and environment.

(OR)

- b) Write in detail on impacts of climate change on water resource management.

11. a) Give a detailed account on classification of disasters.

(OR)

- b) Write in detail on applications of remote sensing and GIS for wild life ecology.

12. a) Give a detailed account on applications of remote sensing and GIS for flood mapping assessment.

(OR)

- b) Write a note on earthquakes and flood mapping assessment through Remote sensing and GIS.

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**PGIS-029-A-22**

**M.Sc. I Semester Degree Examination**

**ENVIRONMENTAL SCIENCE**

**Environmental Chemistry**

**(Scheme CBCS)**

**Paper : HCT 1.3**

**Time : 3 Hours**

**Maximum Marks : 80**

***Instructions to Candidates:***

**Answer both Sections. Section-A is compulsory.**

**SECTION - A**

**Answer any TEN of the following.**

**(10×2=20)**

1. a) Gibbs 'energy
- b) CO<sub>2</sub>
- c) Chemical equilibria
- d) Carbon monoxide
- e) Photochemical smog
- f) Aldehydes and Ketones.
- g) Lead pollution
- h) Radioactive pollution
- i) Alkaline soils
- j) BHC
- k) Colorimetry
- l) X-ray florescence.

## SECTION - B

Answer any SIX of the following.

(6×5=30)

2. Explain solubility of atmospheric gases in water.
3. Give account ozone chemistry.
4. Write short notes on micro and macro nutrients of soil.
5. Explain reaction process of carbonated system.
6. Write a note on physico-chemical properties of marine water.
7. Explain nutrient pathways of carbon in the environment.
8. Detailed account on chemical composition of pesticides.
9. Give an account on SEM and TEM analysis.

## SECTION - C

Answer All the following

(3×10=30)

10. a) Discuss the inorganic and organic particulate matters.

(OR)

- b) Write an account on Minamata disease caused by heavy metal poisoning.

11. a) Discuss the chemical nature and properties of parathion and malathion.

(OR)

- b) Describe the endothermic and exothermic process with suitable examples.

12. a) Explain importance of GCMS and LCMS in analysis of environmental samples.

(OR)

- b) Discuss on application of chromatographic techniques in analysis of environmental samples.