

National Institute of Technology Mizoram  
Mid-Semester Examination, Even Semester - 2023  
Environmental Science (CHE 1801)

BT19CS018

8<sup>th</sup> Semester (CSE, ECE, EEE, ME)

Full Marks: 30 marks

Duration: 1 hour 30 mins

24.5  
30

**Answer all 3 (Three) Questions. All Questions carry same Marks**

- ✓ 1. What is a biogeochemical cycle? Elaborate the following: (i) Hydrologic cycle (ii) Nitrogen cycle (iii) Oxygen cycle. [1+3+3+3=10]
- ✓ 2. Discuss the following: (i) Artificial greenhouse (ii) Suggestions to reduce greenhouse effect (iii) Global warming (iv) Four major greenhouse gases and their sources. [2+2+2+4=10]  
0.5x
- 5x ✓ 3. Discuss the catalytic decomposition of ozone by NO, OH and ClO radicals. [3+3+4=10]

**National Institute of Technology Mizoram**  
**End – Semester Examination, Even Semester - 2023**

BT19CS018

**Environmental Science (CHL 1801)**

**8<sup>th</sup> Semester (CSE, ECE, EEE, ME)**

**Full Marks: 50 marks**

**Duration: 2 hour 30 min**

1. (i) What is an ecosystem? [2]

(ii) What are the components of an ecosystem? [2]

(iii) How do humans impact ecosystems, and what are the consequences of these impacts? [3]

(iv) Suggest some ways to protect and preserve ecosystems for future generations? [3]

2. (i) What are the effects of acid rain? [2]

(ii) Discuss the functioning of settling chamber. [2]

(iii) How sulfuric acid formation happens in the atmosphere? [6]

3. (i) What are the impurities usually found in the water? [2]

(ii) Why water has maximum density as a liquid around 4 °C? [2]

(iii) What are estuaries and why are they important from environmental perception? [2]

(iv) What are the different sources of water? Explain their characteristics? [3]

(v) Discuss thermal stratification and overturn with focus on the characteristics of water bodies during aforementioned phenomena. [3]

(vi) Discuss the alkalinity of water, the ions responsible for it and highlight the need for its estimation? [3]

4. (i) What is pedosphere? How human activities influence on pedosphere. [3]

(ii) Elaborate the phenomenon 'acid mine drainage'. How can we reduce/treat it? [5]

(iii) Write a note on macronutrients present in soil.  $\text{CaCO}_3$  [7]