



## The Assam Royal Global University, Guwahati

Royal School of Environmental and Earth Sciences

M.Sc. Environmental Science, 4<sup>th</sup> semester

Semester End Examination, June 2023

Course Title: Contemporary Environmental Issues

Course Code : ENV164D402

Time: 3 Hours

Maximum Marks: 70

**Note: Attempt all questions as per instructions given.**

*The figures in the right-hand margin indicate marks.*

### Section – A

1. Attempt all questions. (Maximum word limit 50) 2 x 8
- What is desertification? Which international agreement is related to desertification?
  - Give the main difference between carbon credit and carbon offset.
  - The statement 'Zero carbon emission is associated with grey hydrogen' is true or false? Justify your answer.
  - If a wetland of international importance is brought under the 'Montreux Record', what does it imply?
  - What is/are the causative agents of Dengue and Zika virus disease?
  - What are 'Tankas'?
  - Name one bacteria each associated to ammonification, N-fixation and denitrification.
  - Whether the statement 'Key to nitrogen cycle is nitrogen fixing bacteria, which has the ability to fix N<sub>2</sub> or combine gases N<sub>2</sub> with hydrogen to form NH<sub>3</sub>' is correct or not? Justify your answer.

### Section – B

2. Attempt any one of the following: 12 x 1
- What are the salient features of the Jal Shakti Abhiyan launched by the Government of India for water conservation and water security?
  - What do you understand by agroforestry? How is it important in context of climate change for India?
3. Attempt any two of the following: 7x 2
- What are the concerns associated with the present system of Dam Management?
  - What is wetland? Explain the Ramsar concept of 'wise use' in the context of wetland conservation. Cite two examples of Ramsar sites from India. 2+4+1
  - How agriculture can contribute to future climate change? Explain with reference to fertilizer use. 4+3
4. Attempt any two of the following: 7 x 2
- What's the difference between organic arsenic and inorganic arsenic? What are the measures to be adopted to combat arsenic pollution? 4+3
  - Discuss the 'Waste-to Energy' approach to remove fluoride from groundwater.
  - What is Iodine deficiency disorders (IDD)? Discuss.
5. Attempt any two of the following: 7 x 2
- What is bioremediation? Discuss briefly different types of bioremediation.
  - What are the scopes of using Environmental Biotechnology? Discuss.
  - Give an account of the achievements in the field of biotechnology in India.