

**December 2023**  
**B.Tech. (ME) (III Semester)**  
**BIOLOGY (BSC-01)**

**Time: 3 hours**

**Max. Marks: 75**

**PART A (1.5 marks each)**

- Q1** (a) What is the importance of environmental education?  
(b) Discuss the components of the atmosphere.  
(c) Write about neutralism.  
(d) What are the objectives of human rights education?  
(e) Why pyramid of energy is always upright?  
(f) Write the names of three major biomes.  
(g) What are estuaries? Discuss its importance.  
(h) Why do we need to create public awareness of natural resources?  
(i) Write about environmental movements started by Bishnoi of Rajasthan.  
(j) What is the difference between ecological niche and habitat?

**PART B**

- Q2** (a) What is the role of humans and NGOs in environment conservation ?  
Write about steps taken for environmental conservation. (10)  
(b) Why we need to create environmental awareness among the People and students ? (5)
- Q3** (a) Explain the difference between a food chain and a food web with an example. (5)  
(b) What is a population explosion ? What is the role of family welfare programs in controlling the population ? (10)
- Q4** Write short notes on the following : 5×3=15  
(i) Human rights and education  
(ii) Invasive Species  
(iii) Predation and parasitism.

- Q5** (a) What is ecological succession? Discuss in detail the process of ecological succession. (10)  
(b) What is the pyramid of biomass? Explain in detail with examples. (5)
- Q6** (a) Write a short note on energy flow models including the single channel model and Y-shape model. (10)  
(b) Explain in detail about the abiotic structure of the ecosystem.
- Q7** (a) What is the role and function of the pond ecosystem? (5)  
(b) What are the major biomes and their types ? Discuss the structure and function of the forest ecosystem. (10)



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