

B.Sc. Semester - 6 (NEP-2020) Examination**March/April-2026****BIT: Environmental Biotechnology and Public Health (Minor-6)****Time: 2:00 Hours****Marks:50****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1	(1) Explain the types and major sources of water pollution.	(05)
	(2) Differentiate between in situ and ex situ bioremediation with example.	(05)
OR		
	(1) Describe the impact of pollutants on ecosystems and human health.	(05)
	(2) Write a note on microbial degradation of hydrocarbons and pesticides.	(05)
Que.2	(1) Write a note on nitrogen-fixing biofertilizers with example.	(05)
	(2) Describe primary and secondary methods used in waste treatment.	(05)
OR		
	(1) Explain importance of phosphate-solubilizing microbes in agriculture.	(05)
	(2) Explain the role of microorganisms in the treatment of solid waste.	(05)
Que.3	(1) Explain recombinant vaccines and mRNA-based vaccine technologies.	(05)
	(2) PCR is an effective diagnostic tool used in disease detection - justify.	(05)
OR		
	(1) Discuss the role of biotechnology in controlling infectious diseases.	(05)
	(2) ELISA.	(05)
Que.4	(1) Write about sustainable development and explain its basic principles.	(05)
	(2) Describe the major causes and consequences of climate change.	(05)
OR		
	(1) Describe the interconnection between human, animal, and environmental health under the One Health approach.	(05)
	(2) Explain how biotechnology can be integrated with sustainable development.	(05)
Que.5	(1) Discuss any one case study highlighting the bioremediation of industrial waste or oil-contaminated sites.	(05)
	(2) Define biosensors and explain their basic principle of operation.	(05)
OR		
	(1) A brief note on epidemiological surveillance.	(05)
	(2) Discuss biotechnological interventions used for ecosystem restoration and improving ecosystem resilience.	(05)
