



# CBCS SCHEME

17BT833

## Eighth Semester B.E. Degree Examination, July/August 2021 Environmental Biotechnology

Time: 3 hrs.

Max. Marks: 100

**Note: Answer any FIVE full questions.**

- 1 a. Elaborate on the effects of water pollution on humans, vegetation and materials. (10 Marks)  
b. Discuss the sources and the effects of air pollution on living and non living systems in detail. (10 Marks)
- 2 a. State the sources of heavy metal pollution. Discuss biosorption as a detoxification process in detail. (10 Marks)  
b. Substantiate with examples the various microbial systems involved in heavy metal bioaccumulations. (10 Marks)
- 3 a. Distinguish between Aerobic and Anaerobic processes. Elaborate the unit operations in both the processes. (10 Marks)  
b. Discuss the waste water treatment process on dairy and beverage industries. (10 Marks)
- 4 a. Discuss the use of genetically engineered microorganisms in waste water treatment. (10 Marks)  
b. Write short notes on : i) COD ii) BOD. (10 Marks)
- 5 a. What are Xenobiotics? Discuss the biodegradation of pesticides. (10 Marks)  
b. Elaborate the different methods of microbial treatment of oil pollution. (10 Marks)
- 6 a. Discuss the role of microorganisms in bioremediation process. (10 Marks)  
b. Describe the process of phytoremediation to clean up the environment. (10 Marks)
- 7 a. Elaborate on Isolated enzymes versus whole cell systems. (10 Marks)  
b. Discuss the advantages and disadvantages of biocatalysts. (10 Marks)
- 8 a. List the different mechanistic aspects of enzymes. Explain any two models in detail. (10 Marks)  
b. Explain any 2 biocatalytic reactions with examples. (10 Marks)
- 9 a. Explain the process involved in the microbial extraction of petroleum. (10 Marks)  
b. Discuss the bacterial oxidation of chalcopryrite and pyrite. (10 Marks)
- 10 a. Explain the process of microbial desulfurization of coal. (10 Marks)  
b. Analyze the process of extraction of uranium and gold from their ores. (10 Marks)

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Important Note : 1. On completing your answers, compulsorily draw diagonal cross lines on the remaining blank pages.  
2. Any revealing of identification, appeal to evaluator and /or equations written eg, 42+8 = 50, will be treated as malpractice.