



# CBCS SCHEME

15BT833

## Eighth Semester B.E. Degree Examination, Aug./Sept.2020 Environmental Biotechnology

Time: 3 hrs.

Max. Marks: 80

Note: i) For Regular Students: Answer any FIVE full questions irrespective of modules.

ii) For Arrear Students : Answer any FIVE full questions, choosing ONE full question from each module.

### Module-1

- 1 a. Write an account of different sources of pollution in Water, Soil and Air. (08 Marks)
- b. Discuss impact of Heavy Metal Pollution in soil and water. (08 Marks)
- 2 a. Give an account on Microbial Systems for accumulation of heavy metals. (08 Marks)
- b. Write a note on Biosorption and de-toxification mechanisms. (08 Marks)

### Module-2

- 3 a. What is Methanogenesis? Explain anaerobic treatment of waste water using Methanogens. (10 Marks)
- b. Give an account on Genetically engineered organisms in waste water treatment. (06 Marks)
- 4 a. Explain the methods of Municipal waste treatment. (08 Marks)
- b. Discuss about technical processes involved in industrial waste treatment. (08 Marks)

### Module-3

- 5 a. What are Xenobiotics? Explain different types of xenobiotic compounds. (08 Marks)
- b. Give an account on microbial treatment of oil pollution. (08 Marks)
- 6 a. What is Bioremediation? Explain about types of bioremediation methods. (10 Marks)
- b. Give an account on phytoremediation and its applications. (06 Marks)

### Module-4

- 7 a. Distinguish between biocatalysts and whole cell systems. (06 Marks)
- b. What is Biotransformation and write about transformation of environmental contaminants. (10 Marks)
- 8 a. Give an account on Thermodynamics in biotransformation processes. (08 Marks)
- b. Write in detail about sources of enzymes and applications in waste treatment process. (08 Marks)

### Module-5

- 9 a. Define Biooxidation and explain the mechanism in biooxidation of ores. (10 Marks)
- b. Give an account on microbes in Petroleum Extraction. (06 Marks)
- 10 a. Write in detail about mechanisms in bioleaching. (08 Marks)
- b. Give an account on Microbial desulfurization of coal. (08 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.