

2021

B.Sc. (Hons.) Biotechnology

Fifth Semester

BIOT-Sem-V-III-T: Environmental Biotechnology

Time allowed: 3 Hours

Max. Marks: 67

*NOTE: Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.*

x-x-x

I. Writ short answer of the following:-

- a) Symbiotic bacteria
- b) HEPA filters
- c) Activated sludge
- d) Biofilm
- e) Biofuel
- f) Oxidation ponds
- g) Anaerobic digesters
- h) Secondary treatment
- i) Biodegradation
- j) Noise pollution

(10x1½)

**UNIT – I**

- II. a) What are the main soil pollutants, their sources and their effects on living organisms?
- b) What are modern fuels? Also discuss the environmental impacts of modern fuels. (2x6½)
- III. a) Discuss the sources of air pollution and their affects on human health.
- b) Describe the methods of bacteriological analysis of soil. (2x6½)

**UNIT – II**

- IV. a) Discuss the sources of water pollutants and their management.
- b) Describe the aerobic methods of waste water treatment. What are the bioindicators of human excreta in water? (2x6½)
- V. a) Explain the working and microbiology of Rotating biological contactors.
- b) How anaerobic digesters are used for waste water treatment? Which microbes are involved in the process? (2x6½)

P.T.O.

(2)

**UNIT – III**

- VI. a) Describe the commercial methods soil treatment contaminated with pesticides and fungicides.
- b) How biofertilizers are helpful to maintain clean environment? Discuss with suitable examples. (2x6½)
- VII. a) Explain the biodegradabon of environmental pollutants with suitable examples.
- b) Discuss the benefits of integrated Pest Management and bioremediation. (2x6½)

**UNIT – IV**

- VIII. a) What is Municipal Solid waste? Give its composition and methods of management.
- b) Discuss the role of microorganisms in bioabsorption of metals with examples. (2x6½)
- IX. a) What do you know about enrichment of ores by microbes? Which microbes play significant role in it?
- b) Give a comparison of Solid waste and Municipal solid waste. (2x6½)

x-x-x