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18BT821

Eighth Semester B.E. Degree Examination, July/August 2022 Environmental Biotechnology

Time: 3 hrs.

Max. Marks: 100

Note: Answer any FIVE full questions, choosing ONE full question from each module.

Module-1

- 1 a. Give a detailed note on sources of heavy metal pollution, health hazards and their remediation process from the contaminated soil. (12 Marks)
b. Explain the different types of sources of water pollution. (08 Marks)

OR

- 2 a. Elucidate the adaptains established by MO's and algae to survive in metal toxic environment. (10 Marks)
b. Microorganisms uptake metals and is sequestered by chemical sites naturally and functional even the biomass is dead. Uphold the statement. (10 Marks)

Module-2

- 3 a. With a schematic diagram intricate Activated sludge process under biological waste water treatment process. (05 Marks)
b. Explain the process of decomposition of organic and inorganic matters in the absence of oxygen. (15 Marks)

OR

- 4 Explain different types of waste water treatment procedures which involve carbon oxidation, nitrification and denitrification in a single process. (20 Marks)

Module-3

- 5 a. Add a note on different environmental Act's in India. (06 Marks)
b. Explain the causes for Global warming and Acid rain. (06 Marks)
c. Explain the problems and concerns associated with resettlement and rehabilitation of people due to water conservation activities. (08 Marks)

OR

- 6 Explain : (05 Marks)
a) The role of NGO's in environmental protection (05 Marks)
b) Nuclear accidents and Holocaust with a case study. (15 Marks)

Module-4

- 7 a. In detail explain the effect of timber extraction on forest and tribal people with a case study. (15 Marks)
b. Explain the consequences of desertification. (05 Marks)

OR

- 8 a. Enumerate the Effects of modern agriculture on environment. (16 Marks)
b. Describe the role of an individual in conservation of natural resources. (04 Marks)

Module-5

- 9 a. With a schematic diagram, explain the process of bio extraction of refractory ore gold. (10 Marks)
b. Give a detail note on chemical and bioxidation kinetics with suitable examples. (10 Marks)

OR

- 10 a. Enumerate the metal extraction technology which involved the use of MO's for the extraction of metals from low grade ores. (10 Marks)
b. With schematic diagram, enumerate the microbial desulfurization of coal. (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.