

CS/2110

B.Sc. (Biotech) Sem-V, Nov. 2018

10310/NH

Paper-II: Environmental Biotechnology

Time allowed: 3 Hours

Max. Marks: 52

Attempt **any two questions** each from Section A and Section B; and **entire** Section C.

Section A

- Q. 1. Discuss physico-chemical and biological indicators of environmental pollution. 8
- Q. 2. Write an essay on design, working and advantages of biogas plant. 8
- Q. 3. What are the main sources of water pollution? What are the effects of this pollution? 8
- Q. 4. Write notes on the following:
- (i) Trickling filters
 - (ii) Sources of soil pollution 4+4

Section B

- Q. 5. Write a detailed note on vermicomposting. 8
- Q. 6. Discuss role of biosensors in monitoring of water pollution. 8
- Q. 7. Discuss principle, working and application of GC. 8
- Q. 8. Describe the role of microorganisms in bioremediation. 8

Section C

- Q. 9. Attempt all parts:
- (i) What are the parameters to measure air pollution?
 - (ii) Define pollutant.
 - (iii) What are green house gases?
 - (iv) Distinguish between sludge and activated sludge.
 - (v) Distinguish between COD and BOD.
 - (vi) What is biomagnification?
 - (vii) Which is/are the most serious pollutants of water? Justify your answer.
 - (viii) What are metallothioneins?
 - (ix) What is the role of pump(s) in HPLC?
 - (x) Name spectroscopic techniques used in pollutant monitoring. 10X2