



LOYOLA COLLEGE (AUTONOMOUS), CHENNAI – 600 034

B.Sc. DEGREE EXAMINATION – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY

SIXTH SEMESTER – APRIL 2022

18UPB6MC04 – ENVIRONMENTAL BIOTECHNOLOGY

Date: 15-06-2022

Dept. No.

Max. : 100 Marks

Time: 01:00 PM - 04:00 PM

PART A

(10 × 2 = 20 Marks)

Answer the following, each within 50 words.

01. What is biosphere?
02. What is thermal pollution?
03. Define co-metabolism.
04. Distinguish between intrinsic and engineered bioremediation.
05. What are oxidation ponds?
06. Mention the objectives of waste water treatment.
07. What are xenobiotics?
08. What are radionuclides?
09. Define biomass.
10. What is bio-mineralization?

PART B

(5 × 7 = 35 Marks)

Answer the following, each within 500 words. Draw diagrams and flowcharts wherever necessary.

11. a. What are heavy metals? Add a note on sources, effects on living organisms and bioremediation of heavy metals.

OR

- b. Give an account on global climate change.

12. a. Briefly write about the various phytoremediation techniques.

OR

- b. Give a brief account on bioremediation mechanisms.

13. a. Describe the various biological methods used for the degradation of petroleum hydrocarbon.

OR

- b. Write in detail about the development of biofilm.

14. a. Give an account of bioremediation of radionuclides.

OR

- b. What is bio-filtration? Describe the structure and function of bio-filter.

15. a. Briefly write about the bioleaching of copper.

OR

- b. Give a brief account on biodegradable plastics.

Answer ***any three*** of the following, each within 1200 words. Draw diagrams and flowcharts wherever necessary.

16. Give a detailed account on causes, effects and solution for air pollution.
17. Describe *in situ* and *ex situ* bioremediation techniques.
18. Give an account on structure and functional aspects of trickling filter and Activated sludge unit.
19. Explain the biodegradation of any two xenobiotics you have studied.
20. Write a detailed account on non-conventional energy resources.

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