

NS-3477 (CV-II)

B.Sc. Biotechnology Examination, June - 2021

Environmental Biotechnology

(B-305)

[B.Sc.(Bio-Tech.)]

Time : 1½ Hours] [Maximum Marks : 75

Note : Attempt questions from **all** Section as per instructions.

Section-A

(Very Short Answer Questions)

Note : Answer any **two** questions. Each question carries **7.5** marks. Very short answer is required not exceeding 50 words. $2 \times 7.5 = 15$

P.T.O.

1. Discuss fossil fuels as non-renewable resources. How can they be conserved?
2. What is bioenergy? How does it differ from chemical energy?
3. What are biofertilizers? Discuss their role in agriculture.
4. Explain advantage of Phytoremediation.
5. Short note on activated sludge.

Section-B

(Short Answer Questions)

Note : Answer any **one** questions. Each question carries **15** marks. $1 \times 15 = 15$

1. Explain:
 - (a) Biological treatment of municipal solid waste
 - (b) Bio material as better alternative for non-degradable materials.
2. Give an account of non-renewable source of energy.

3. Short note on following:
 - (a) Biological hydrogen production
 - (b) Biomineralization
4. Short note on:
 - (a) Production of biogas using methanogenic bacteria
 - (b) Describe the bioreactors used in waste water treatment
5. Give detailed account of phytoremediation?

Section-C

(Detailed Answer Questions)

Note : Answer any **two** questions. Each question carries **22.5** marks.

$$2 \times 22.5 = 45$$

1. What is bioremediation. Enlist different techniques of bioremediation. Explain any **two** techniques cite appropriate example.

2. What are modern fuels? Discuss the production of ethanol in detail?
3. What are Transgenic organism and their impact on environments.
4. Write notes on the following:
 - (a) Ex situ bioremediation
 - (b) Bio accumulation
 - (c) Conventional fuel
5. Explain in detail degradation of pesticides other toxic chemicals by microorganism.