(FOR THE CANDIDATES ADMITTED DURING THE ACADEMIC YEAR 2023 ONLY)

23UBY6E6

REG.NO. :

N.G.M. COLLEGE (AUTONOMOUS), POLLACHI
END-OF-SEMESTER EXAMINATIONS: APRIL - 2026

B.Sc.-BOTANY **MAXIMUM MARKS: 75**
SEMESTER: VI **TIME : 3 HOURS**

PART - III
DISCIPLINE SPECIFIC ELECTIVE II – ENVIRONMENTAL BIOTECHNOLOGY

SECTION – A **(10 X 1 = 10 MARKS)**

ANSWER THE FOLLOWING QUESTIONS.
MULTIPLE CHOICE QUESTIONS. **K1**

1. What is the primary goal of environmental biotechnology in pollution abatement?
   a) Increasing crop production b) Enhancing industrial output
   c) Controlling pollutants & protecting the environment d) Developing new chemicals
2. In a green audit for an educational institution, which of the following is typically analyzed?
   a) Water and energy usage b) Waste generation and disposal
   c) Biodiversity on campus d) All of the above
3. A biosensor's primary function is_____.
   a) to amplify biological signals only
   b) to convert a biological signal into a measurable electrical or optical signal
   c) to perform chemical reactions without a biological component
   d) to directly visualize molecular structures
4. Foreign substances which are chemical in nature found within an organism which is produced naturally are called as_____.
   a) Xenobiotics b) Bio-leaching
   c) Bio-remediation d) Bio-fortification
5. What is the primary objective of an energy audit?
   a) To increase energy consumption
   b) To identify and quantify energy usage and potential for conservation
   c) To increase production costs
   d) To monitor employee attendance

ANSWER THE FOLLOWING IN ONE (OR) TWO SENTENCES. **K2**

6. What do you mean by biofilters? Give few examples.
7. Mention the primary objective of Environmental Impact Assessment.
8. Comment on biofilms.
9. How do microplastics enter the environment?
10. Give examples for primary sources of biomass energy.

SECTION – B **(5 X 5 = 25 MARKS)**

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS. K3

11. a) Explain the physical and chemical parameters of water quality.

(OR)

b) List out the measures taken by the government to control pollution.

(CONTD…….2)

12. a) Describe the main stages of the Environmental Impact Assessment process.

(OR)

b) Discuss the key aspects of environmental planning and management.

13. a) Evaluate the different cytotoxicity test used in environmental analysis.

(OR)

b) Explain the advantages/disadvantages of different bioindicators.

14. a) Discuss the effects of plastic on human health and environment.

(OR)

b) Explain the process of biological detoxification.

15. a) List the advantages of using biofuels and biogas.

(OR)

b) Describe the different phases of energy audit.

SECTION – C (5 X 8 = 40 MARKS)

ANSWER EITHER (a) OR (b) IN EACH OF THE FOLLOWING QUESTIONS.K4 & K5

16. a) Enumerate the role of Biotechnology in pollution abatement.

(OR)

b) How can biotechnology be useful in the treatment of solid waste? Explain in detail.

17. a) Evaluate the benefits and challenges of conducting a green audit.

(OR)

b) Analyze the applications of remote sensing and GIS in environmental management.

18. a) Examine the importance of biofilms and biochips in environmental analysis.

(OR)

b) Critically assess the use of bacteria as indicators of pollution monitoring.

19. a) Enumerate the benefits of bioremediation in the treatment of hazardous wastes.

(OR)

b) Discuss about the factors influencing efficiency and rate of bioleaching process.

20. a) Critically assess the biological hydrogen production methods.

(OR)

b) Discuss the recent developments in solar and wind energy.

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ETHICAL PAPER