No. of Printed Pages : 3

MEVE–13

M. SC. (ENVIRONMENTAL SCIENCE)

(MSCENV)

Term-End Examination

December, 2024

MEVE–13 : ENVIRONMENTAL BIOTECHNOLOGY

Time : 3 Hours *Maximum Marks : 100*

Note **:** (*i*) *Attempt any* ***ten*** *questions.*

(*ii*) *All questions carry equal marks.*

1. Define environmental biotechnology. Describe the scope and application of environmental biotechnology. 2+8=10

2. What is trickling filter ? Describe its applications in wastewater treatment. 4+6=10

3. Explain the types of solid waste. Discuss the role of biotechnology in wastewater treatment. 5+5=10

4. Explain biodegradation of macromolecules. Discuss the mechanism involved, its advantages and limitations. 6+4=10

5. What is silage ? Describe the process of silage making. 4+6=10

6. Discuss the role of microbes in greenhouse gas mitigation. 10

7. Describe *ex-situ* and *in-situ* bioremediation and their future prospects. 10

8. Write notes on biosporging, bioventing and bioaugmentation. 10

9. Describe various methods of bioremediation of air pollutants. 10

10. Describe the types of phytoremediation. Explain the role of phytoremediation in wetlands. 10

11. Describe first generation, second generation and advanced biofuels. Discuss their potential and limitations. 10

12. What are biofertilizers ? Explain the types of biofertilizers. 5+5=10

13. Define biomarkers. How are biomarkers used in environmental monitoring ? 2+8=10

14. What is bioleaching ? Describe the methods in mineral recovery. 2+8=10

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