

2017  
**BIOTECHNOLOGY**  
Paper : T-402

**ENVIRONMENTAL BIOTECHNOLOGY**

Full Marks: 80

Time: 3 hrs

The figures in the margin indicate full marks for the questions

1. Answer the following questions: 1x8=8
  - (i) Name a geographical indicator from NE India.
  - (ii) What is the duration granted in copyright?
  - (iii) Name synthetic organic pesticide.
  - (iv) Define Xenobiotics.
  - (v) What is biotransformation?
  - (vi) Name two earthworm species used in vermiculture.
  - (vii) What are biosurfactants?
  - (viii) What is trademark?
2. What are the criteria of granting patent. 2
3. Write the enzyme system involved in Phase-I reactions of biotransformation of toxicants. 2
4. What are axonic poisons? 2
5. Name two techniques for vermicomposting. 2
6. What are biopolymers? Give an example. 2

7. What is composting? Write about its advantages. 2
8. Answer the following questions: 5x4=20
- (i) What is bioprospecting? Cite two merits and demerits each of the technique.
  - (ii) What are pesticides? Classify them on the basis of mode of entry.
  - (iii) Write a brief note on cryopreservation.
  - (iv) Describe the process of methane production.
9. Write short notes on any two from the following: 8x2=16
- (i) Restoration of degraded lands.
  - (ii) Mechanism of DDT poisoning.
  - (iii) Physiological and biological methods of toxicity testing.
10. Answer any two from the following: 12x2=24
- (i) What is Phytoremediation? Write an essay on naturally occurring plants for phytoremediation. Also add a note on the transgenic plants available for phytoremediation.  
2+5+5= 12
  - (ii) What are plant secondary metabolites? Describe in vitro production of secondary metabolites. 2+10=12
  - (iii) Discuss in brief the toxic effects of Xenobiotics to health. 12