E 6449 (Pages : 2) Reg. No.....

Name.....

B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2019

Sixth Semester

Core Course 21—ENVIRONMENTAL BIOTECHNOLOGY

(For B.Sc. Biotechnology)

[2013 Admission onwards]

Time : Three Hours Maximum Marks : 80

Part A

Answer **all** *questions.*
Each question carries 1 *mark.*

1. What is meant by water quality ?
2. What is β-diversity ?
3. Define biomagnification.
4. What is composting ?
5. Define biomass.
6. Define incineration.
7. What is garbage segregation ?
8. What is chemical oxygen demand.
9. Name a cellulose degrading micro-organism.
10. What are the major green house gases ?

(10 × 1 = 10)

Part B

Answer any **eight** *questions.*
Each question carries 2 *marks.*

11. What is BOD ?
12. How can solar energy be converted to fuel ?
13. What is Jatropha ? Why is it commercially important ?
14. What are catabolic plasmids ?
15. What are environment laws ?

Turn over

16. What is aerobic pond ?
17. What is a land fill ?
18. What is the use of activated sludge treatment ?
19. What is the means of disinfecting drinking water ?
20. What are the causes of ozone layer depletion ?
21. What are the consequences of heavy metal pollution on human health ?
22. What are methanogenic bacteria ?

(8 × 2 = 16)

Part C

Answer any **six** *questions.*
Each question carries 4 *marks.*

23. What is the principle of bioremediation ?
24. Briefly describe the anaerobic treatment of waste water and sewage sludge.
25. Describe on the degradation of cellulose and lignin by micro-organisms.
26. Describe the mechanism of biodegradation of pesticides.
27. Describe the characteristics of waste water.
28. Briefly explain about the tests for bacteriological analysis of drinking water.
29. What is the use of chlorination ?
30. What are the major sources of pollution in soil ?
31. Write a brief note on depletion of natural resources. How can environmental biotechnology contribute to its restoration ?

(6 × 4 = 24)

Part D

Answer any **two** *questions.*
Each question carries 15 *marks.*

32. Explain various methods of waste water treatment. Elaborate on sequential steps.
33. What are the means of solid waste management ?
34. Discuss the molecular biology of biodegradation reactions. What are the enzymes involved in biodegradation of hydrocarbons ?
35. Write an essay on various sources of water pollution. How can environmental biotechnology contribute to environmental clean up ?

(2 × 15 = 30)