

Reg. No. : .....

Name : .....

**Fourth Semester B.Sc. Degree Examination, August 2022**

**Career Related First Degree Programme under CBCSS**

**Group 2 (a) : Biochemistry and Industrial**

**Microbiology**

**Vocational Course V**

**IM 1471 – ENVIRONMENTAL MICROBIOLOGY**

**(2019 Admission Onwards)**

Time : 3 Hours

Max. Marks : 80

**SECTION – A**

Answer all questions. Answer in a word to a maximum of two sentences. Each question carries 1 mark.

1. Indicator organisms
2. Humus
3. Bioremediation
4. Incineration
5. Nematophagy
6. Windrow Composting

7. Halophile
8. Name any two organisms involved in vermicomposting
9. Imhoff tank
10. Methanogenesis

(10 × 1 = 10 Marks)

#### SECTION – B

Answer any **eight** questions. Answer not to exceed **one** paragraph. Each question carries **2** marks.

11. Write short notes on banana bunchy top disease.
12. Protocooperation
13. Vermicomposting
14. Xenobiotic degradation
15. Azotobacter
16. Microbes in mining
17. Modern landfill vs traditional methods
18. Explain the term microbial inoculants
19. Anaerobic Digestion
20. Trickling filter
21. Extremophiles
22. BOD
23. Blue green algae

24. Examples of nitrogen-fixing bacteria
25. Rhizosphere microbiome
26. Classification of biomedical waste

**(8 × 2 = 16 Marks)**

### SECTION – C

Answer any **six** questions. Answer not to exceed **120** words. Each question carries **4** marks.

27. Applications of Mycorrhizal fungi.
28. What is the role of microorganisms in soil processes?
29. Bacteria involved in Anaerobic digestion.
30. What is a microbial inoculant? Discuss about agriculturally useful inoculant.
31. What are the conventional methods of treatment of liquid waste?
32. Biofertilizer.
33. Discuss Nitrogen cycle and nitrogen fixing organisms.
34. Pesticide degradation.
35. Differentiate Ectomycorrhiza, endomycorrhiza and ecto-endomycorrhiza.
36. Biomedical waste and its disposal.
37. Distinguish bacterial blight of paddy and blight of maize.
38. How does bacteria live in extreme environments?

**(6 × 4 = 24 Marks)**

SECTION – D

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

39. Discuss the types of Solid waste and its management.
40. Describe microbial interactions with suitable examples.
41. Write about the symptoms, etiology, disease cycle, epidemiology and management of Mosaic disease, damping off of tobacco and citrus canker.
42. Explain the microbial transformation of phosphorus and iron.
43. What is Bioremediation and its role in environment?
44. What are the different methods of treatment of household sewage?

(2 × 15 = 30 Marks)