

**Bankura University**  
**B.Sc 4th Semester (Honours) Examination, 2022**  
**SUB: Microbiology**

Course ID: 42212

Course Code: SH/MCB/ 402/ C-9

Course Title: Environmental Microbiology

Full Marks: 25

Time: 1 hr 15 mins.

The figures in the margin indicate full marks

**UNIT I**

**1. Answer any five of the following questions: 1x5=5**

- a) Give an example of marine bacterium.
- b) Define aeromicroflora.
- c) What is mutualism?
- d) Name one non symbiotic nitrogen fixing bacterium.
- e) Which types of bacteria and algae predominant in littoral zone and limnetic zone?
- f) Differentiate between BOD and COD.
- g) What is amensalism?
- h) What are biosurfactants?

**UNIT II**

**2. Answer any two of the following questions: 5x2=10**

- a) Write short notes on phosphate solubilisation and immobilization.
- b) Describe the process of microbial degradation of lignin.
- c) What is solid waste? What is the role of composting in solid waste treatment?  
2+3
- d) Give an account of the methods to detect potability of water samples.

**UNIT III**

**3. Answer any one of the following questions: 1x10=10**

- a) Write short note on: 5+5=10
  - i) Co-metabolism and ii) Predation.
- b) What is the composition of sewage? Describe the methods of sewage treatment.  
3+7=10