



**Avinashilingam Institute for Home Science and Higher Education for Women**  
Deemed to be University Estd. u/s 3 of UGC Act 1956, Category 'A' by MHRD (now MoE)  
Re-accredited with an 'A++' Grade by NAAC CGPA 3.65/4, Category I by UGC  
Coimbatore - 641 043, Tamil Nadu, India

**Continuous Internal Assessment Test II – October, 2025**  
**Semester V**

**Class: III UG**

**Max. Marks: 60**

**Major: Biochemistry and Biotechnology**

**Time: 2 hours**

**23BBTDE1 – Environmental Biotechnology**

CO1: Understand the basic concepts of ecosystem and resources and types of waste management.

CO2: Learn the importance of bioremediation and biodegradation.

CO3: Illustrate the role of microbes as biofertilizers.

CO4: Discuss the importance of biopesticides

CO5: Relate and demonstrate the essence of waste water management.

**Part – A**

**6 x 1 = 6**

**Choose the correct answer**

- 1) Which of the following microbe leach metals out of rock ores and can accumulate silver? CO3 K1
  - a. *Pseudomonas aeruginosa*
  - b. *Thiobacillus*
  - c. *Pseudomonas putida*
  - d. *Zoogloe aramigera*
- 2) Azolla is used as biofertilizers because it has CO4 K2
  - a. Rhizobium
  - b. Cyanobacteria
  - c. Mycorrhiza
  - d. Green algae
- 3) The conversion of nitrogen to ammonia is called as CO4 K1
  - a. Nitrogen assimilation
  - b. Nitrogen fixation
  - c. Nitrification
  - d. Denitrification
- 4) Which of the following nitrogen fixers is found in rice fields associated with *Azolla*? CO4 K2
  - a. *Tolypothrix*
  - b. *Frankia*
  - c. *Anabaena*
  - d. *Spirulina*
- 5) In the activated sludge process CO5 K2
  - a. Aeration is continued till stability
  - b. Aeration is done with an admixture of previously aerated sludge
  - c. Sludge is activated by constant stirring
  - d. Water is removed by centrifugal action
- 6) Disinfection of water is mainly done by CO5 K2
  - a. Oxygenation
  - b. Hydration
  - c. Chlorination
  - d. Filtration

**Part - B**

**3 x 6 = 18**

**Answer ALL questions**

**Answer should not exceed 400 words or two pages**

- 7.a. Comment on green manuring. CO3 K2
- Or
- 7.b. How *Bacillus thuringiensis* act as a biopesticide? Explain. CO3 K2
- 8.a. Discuss the role of microorganisms in degrading aromatic and chlorinated hydrocarbons. CO4 K2
- Or
- 8.b. Brief the process of enrichment of ores using microorganisms. CO4 K3
- 9.a. What are physical methods employed in the treatment of wastewater? CO5 K1
- Or
- 9.b. Write a note on BOD. CO5 K3

**Part - C**

**3 x 12 = 36**

**Answer ALL questions**

**Answer should not exceed 800 words or four pages**

- 10.a. Comment on biofilms. CO3 K2
- Or
- 10.b. Write the role of VAM in biofertilizers. CO3 K3
- 11.a. Explain the Environmental significance of genetically modified microbes, plants and animals. CO4 K3
- Or
- 11.b. Discuss the role of *B. thuringiensis* and baculo virus as natural pesticides. CO4 K3
- 12.a. What are the different treatment methods used for industrial effluents. CO5 K3
- Or
- 12.b. Explain the various methods of wastewater treatment. CO5 K2

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