



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