

THE OPEN UNIVERSITY OF SRI LANKA
 DIPLOMA IN MICROBIOLOGY - LEVEL 3
 FINAL EXAMINATION – 2024/2025
 BYD3602 – APPLICATIONS IN MICROBIOLOGY
 DURATION – TWO (02) HOURS



Date – 19.07.2025

Time – 09.30am – 11.30am

Answer any four (04) questions.

1. Explain the plant - microbial interactions which give beneficial effects to plants.
 (The answer should contain descriptions of the interactions, names of microorganisms involved, and beneficial effects) (30 minutes)
2. (a). Define the term “Indicator organisms” in relation to water quality. Give two examples for indicator organisms. (05 minutes)
- (b). The treatment process of municipal water supplies has various steps. Briefly describe each of the following steps and explain their roles in making water safe to drink.
 - (i). Coagulation and flocculation
 - (ii). Filtration
 - (iii). Disinfection (25 minutes)
3. (a). Briefly describe the primary treatment process of municipal waste treatment. (15 minutes)
- (b). Briefly describe the composting process and explain the role of microorganisms in composting. (15 minutes)
4. (a). List five (05) factors that influence the number and types of microorganisms present in a food or a food product. (05 minutes)
- (b). Define the term “probiotics” and briefly outline five (05) benefits of probiotics on human wellbeing. (10 minutes)
- (c). Write concisely on different methods by which high temperature or heat is applied in food preservation. (15 minutes)
5. Write short notes any three (03) of the following.
 - (a). Rhizobium-Legume symbiosis
 - (b). Bioremediation
 - (c). Probiotics and their benefits on host
 - (d). Spoilage of eggs (30 minutes)
6. (a). Discuss the advantages and disadvantages of using microorganisms as a source of protein in food. (20 minutes)
- (b). List the five (05) steps involved in making Beer from wort. (05 minutes)
- (c). Name the two (02) types of beer and the organisms involved in making these two types of beer. (05 minutes)