

Bago University
Department of Botany
Second Semester Examination, September, 2019

Fourth Year (B.Sc)
Botany Specialization
Answer All Questions

Bot.4109
Applied Microbiology
Time allowed: (3) Hours

I. Determine whether each statement is TRUE or FALSE.

(10 marks)

1. *E. coli* live in the colon or small intestine.
2. The region of the earth habitat by living organisms is called biomass.
3. The large groups of bacteria in the soil are the zygomycetes.
4. The zone that surrounds the roots and contains these exudates is termed as the biosphere.
5. Hydrogen sulfide is likely to accumulate in waterlogged soil.
6. Nitrogen gas is inert and non-toxic.
7. Contamination of water is a major cause of epidemic disease.
8. Individual septic tanks and draining are needed in artificial wetlands system.
9. Cleavage penetration can occur with Lichen.
10. Microbes are effective biochemical weathering agents.

II. Write correct word to complete the following sentences.

(10 marks)

1. A viroid is a small piece of RNA that dose not have ----- coat.
2. The smallest viruses are one million times smaller than ----- cells.
3. Some mercury resistant bacteria can produce ----- that inactivates a toxic metal mercury.
4. Soil actinomycetes use organic compounds obtained by ----- dead plant and animal matter.
5. Pollutants from domestic industrial wastes have been dumped into the -----.
6. Methyl mercury is a powerful never ----- for humans.
7. Microbial activity is important in the recycling of all the ----- materials.
8. The trickling filters are used for smaller sewage ----- plants.
9. Most human pathogen grow best at temperatures near -----.
10. The bioleaching process occur at the cell membrane of the -----.

III. Answer all questions.

(10 marks)

1. Describe the row of microorganisms in the environment.
2. Classify the types of bacteria according to the temperature regulates.
3. State the solid waste treatment by microorganisms.
4. Describe the methods of food preservation.
5. Clarify the fungi that spoiled the foods.

IV. Answer all questions.

(20 marks)

1. Summarize the role of microorganisms in the ecosystem and its ecological niche.
2. Briefly explain the soil teems.
3. Give the disadvantages of solid waste management.
4. Describe the disadvantages of bioleaching.

V. Answer any three questions.

(30 marks)

1. Give the steps of water treatment in a municipal water.
2. Explain detailed in the commercial and home composting programs.
3. Describe the ingredients and procedure for pickled mixed vegetables recipe.
4. Discuss on the production of wine by using a microbe.
5. Give explanation on the process of biosorptive.