

**BONDO UNIVERSITY COLLEGE  
SCHOOL OF HEALTH SCIENCES**

**SBI 3211: INTRODUCTION TO MICROBIOLOGY**

**Answer ALL questions in Section A and ANY TWO questions in Section B**

- 1) Give two examples of antibiotics used in food preservation.
  
- 2) Give definitive and the alternative hosts of the following parasitic microorganisms:  
A) *Plasmodium falciparum*  
B) *Taenia saginata*  
C) *Echinococcus granulosus* (3 marks).
  
- 3) What are the diagnostic differences between Eukaryotic and Prokaryotic cell. Give an example of each. (3 marks).
  
- 4) Describe the differences between selective and differential media. (3 marks)
  
- 5) A) With reference to bacteria, define generation time.  
B) Log/Exponential phase  
C) Lag phase (3 marks).
  
- 6). Describe biological method used to sterilize perishable things like vaccines (3 marks)
  
- 7) A light microscope has three main lenses through which light must pass to make microorganisms visible, state their name and location. (3 marks)
  
- 8) Describe the differences between simple stains and differential stains (3 marks)
  
- 9) Give three important characteristics that are used to classify bacteria. (3 marks)
  
- 10) State three benefits derived from fungi. (3 marks)

**Section B: answer any two questions:**

- 1) Describe the role played by Bacteria in each of the following:  
A) Biological control of pests (5 marks)  
B) Recycling of elements (5 marks)  
C) Sewerage treatment (5 marks)  
D) Cleaning of environmental pollutants like oil spillages (5 marks)
- 2.)With reference to prokaryotic cells describe the functions of the following  
Capsule (5 marks)  
Flagella (5 marks)  
Fimbria (5 marks)  
Plasma membrane (5 marks)
  
- 3) Describe the domain Archaea (10 marks).What are the main differences between Archaea and bacteria. (10 marks).
  
- 4) Describe with examples physical and chemical methods used to control the growth of microorganisms (20 marks)