



ELIZADE UNIVERSITY, ILARA-MOKIN, ONDO STATE, NIGERIA

**BASIC & APPLIED SCIENCES
BIOLOGICAL SCIENCES
SECOND SEMESTER EXAMINATION
2017/2018 ACADEMIC SESSION**

COURSE CODE: MCB 406

COURSE TITLE: Environmental Microbiology

DURATION: 3 hours

HOD'S SIGNATURE

NAME:..... MAT.No:.....

INSTRUCTIONS: Answer ANYFOUR questions

ANSWER ANY FOUR QUESTIONS

1. a. List the major factors important in the survival of microorganisms in aerosols.
 - b. What is the major component of biosafety cabinets that remove microorganisms?
 - c. List some of the examples of an internal and external source of bioaerosols.
 - d. What approach will you take for Bioaerosol control
2. a. Describe five ways in which environmental microbiology directly affects you daily?
 - b. Your first job is as an environmental microbiologist is at a wastewater treatment plant, where you are in charge of the sludge bioreactors. What is the importance of about aquatic microorganisms in your system?
3. a. (i) Define coliform and fecal coliform bacteria.
 - (ii) Discuss why you are for or against the choice of their use as ideal indicators?
 - b. What are some of the criteria for indicator bacteria?
 - c. What are two methods that can be used to detect indicator bacteria in water?
4. a. Explain why is chlorine more effective against microorganisms at pH 5.0 than at pH 9.0?
 - b. Which chlorine compound is most effective against biofilms and explains why?
 - c. What factors interfere with chlorine disinfection and Ultraviolet disinfection?
 - d. (i) What is the main site of UV light inactivation in microorganisms?
 - (ii) What group of microorganisms is the most resistant to UV light and explains why?
5. a. Why is it important to reduce the amount of biodegradable organic matter and nutrients during water treatment and sewage treatment?
 - b. Describe the major steps in the conventional treatment of drinking water.
 - c. What group of waterborne pathogens is most effectively removed by filtration and Why?
 - d. What methods can be used to assess the growth of bacteria in water?
 - e. Which pathogenic microorganisms are the most difficult to remove by conventional water treatment and explain why?
6. a. Explain why is coliform regrowth in distribution systems a problem?
 - b. What are the three major steps in modern wastewater treatment?
 - c. When would tertiary treatment of wastewater be necessary?
 - d. What are some types of tertiary treatment you have been taught?

4CB 406
LAST SESSION