



**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF LIFE SCIENCES
DEPARTMENT OF MICROBIOLOGY**

FIRST SEMESTER EXAMINATION 2015/2016 SESSION

COURSE CODE: MCB 313

COURSE TITLE: MICROBIAL ECOLOGY (3 UNITS)

CLASS: 300 LEVEL

TIME: 2 HOURS

Instruction: Answer any **FOUR** questions

1. Analyze an aquarium as an ecosystem. Identify the major biotic and abiotic factor. List members of the producer, primary consumer, secondary consumer, and decomposer tropic level.
- 2(a). Microorganisms are the backbone of all ecosystems. Discuss.
- 2(b). What are the tropical levels in an ecosystem?
- 2(c). Give two differences between a food chain and a food web.
3. What is biological interaction? Discuss interaction of microorganisms with animals
4. Write short notes on the following, stating the factors that affect each of them
 - a.) Mineralization
 - b.) Nitrification
 - c.) Denitrification
- 5(a). Discuss how the following factors affect the breakdown of hydrocarbons in the environment
 - i. Salinity
 - ii. Moisture
 - iii. Oxygen
 - iv. Nutrients
- 5(b). How would you stimulate breakdown of organic pollutant in the environment?
- 6(a). Discuss the effects of pesticides on rhizosphere microbial ecology
- 6(b). Explain how you would isolate anaerobic bacteria capable of fermenting cellulose from soil.