



**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**DEPARTMENT OF MICROBIOLOGY**  
**FIRST SEMESTER EXAMINATION,**  
**2022/2023 ACADEMIC SESSION**

**COURSE TITLE: MICROBIAL ECOLOGY**

**COURSE CODE: MCB313**

**UNIT: 3 UNITS**

**INSTRUCTIONS:** Answer any Five (5) Questions.

**Time Allowed: 2hrs 30mins**

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- 1(a).** Define Microbial Ecology.
- 1(b).** Discuss the role of Microbial Ecologists in the global climate change campaign.
- 2.** Discuss morphological and physiological adaptations of microorganisms to their environment.
- 3.** Discuss microbial interactions that take place in the rhizosphere.
- 4.** With the aid of a diagram, explain the nitrogen cycle in nature.
- 5(a).** Define bioremediation.
- 5(b).** A plot of land contaminated with diesel oil was inoculated weekly with *Bacillus subtilis*. After four weeks, about 95% of the polycyclic aromatic hydrocarbons had been reduced to non-toxic compounds. Name and discuss the remediation process employed.
- 6(a).** What is acid mine drainage?
- 6(b).** List any three sources of acid mine drainage.
- 6(c).** How can you prevent or clean up acid mine drainage?
- 7.** Discuss the future prospects of Microbial Ecology in Nigeria.