



**FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA**  
**DEPARTMENT OF MICROBIOLOGY**  
**SECOND SEMESTER EXAMINATION 2019/2020 SESSION**  
**MCB 523 (ENVIRONMENTAL MICROBIOLOGY) (3 CREDITUNITS)**

**INSTRUCTION: Answer any Five (5) Questions (At least ONE from each section).**  
**TIME: 2hours 30 min.**

**SECTION A**

1. Water sample was brought to Microbiology Departmental Laboratory in FUT Minna for analysis. As a microbiologist, describe how you would use MPN method to analyse the water.
2. Write short note on the following:
  - (a) Indoor air microflora,
  - (b) Outdoor air microflora, and
  - (c) Hospital air microflora.
- 3(a). Discuss briefly, the existence of microorganisms in air.
- 3(b). Define indicator organisms and give any two examples.
- 3(c). List any five (5) properties of an indicator organism.

**SECTION B**

- 4(a). Mention any four (4) key microorganisms involved in the phases of nitrogen cycle and highlight the roles of each.
- 4(b). State five (5) implications of excessive influx of nitrogen in the environment.
5. Discuss the economic importance of sedimentary cycles.

**SECTION C**

- 6(a). Define pesticide.
- 6(b). List five (5) types of pesticides.
- 7(a). What are bio-pesticides?
- 7(b). Catalogue the types of bio-pesticides.