



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

**SECOND SEMESTER EXAMINATION 2014/2015 SESSION**

**COURSE CODE: MCB 522**

**COURSE TITLE: PETROLEUM MICROBIOLOGY (2 UNITS)**

**CLASS: 500 LEVEL**

**TIME: 2 HOURS**

**Instruction: Answer any 4 (four) questions**

1. Write short notes on the following:
  - i. Oil well souring and its control
  - ii. Microbial corrosion of metals
  - iii. Discovery of petroleum in Nigeria
2. Discuss the composition of petroleum
- 3(a). Highlight the differences between biodegradation and biomineralization of petroleum hydrocarbons.
- 3(b). Discuss the mechanisms utilized by biosurfactant-producing bacteria in the uptake of hydrocarbons
4. Discuss the role of a legume-microbe relationship in oil spill bioremediation in agricultural soil.
- 5(a). How would you stimulate the proliferation of denitrifying bacteria (DNB) for them to be able to arrest activity of sulphate reducing bacteria (SRB) in petroleum products?
- 5(b). Explain three processes *Sida acuta* can use to remediate petroleum polluted soil.
- 6(a). Discuss the natural sources of oil spills in the environment
- 6(b). How would you use microorganisms to restore petroleum polluted soil?