



FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
SCHOOL OF NATURAL AND APPLIED SCIENCES
DEPARTMENT OF MICROBIOLOGY

SECOND SEMESTER EXAMINATION 2013/2014 SESSION

COURSE CODE: MCB 522

COURSE TITLE: PETROLEUM MICROBIOLOGY (2 UNITS)

CLASS: 500 LEVEL

TIME: 2 HOURS

Instruction: Answer any 4 (four) questions

1. Discuss the immediate and direct consequences of oil spills in the crude oil processing areas of Nigeria
2. Write short notes on the following;
 - (i) Bioemulsifiers
 - (ii) Sources of oil spills
 - (iii) Bioremediation
- 3(a). Describe the mechanisms employed by surfactant producing bacteria in degradation of petroleum hydrocarbons
- 3(b). Write short notes on the factors influencing biodegradation of hydrocarbons
- 4(a). discuss any two of the following
 - (i) Alkanes in petroleum
 - (ii) Nitrogen compounds in petroleum
 - (iii) Oxygen compounds in petroleum
- 4(b). List five evidences that serve as a pointer to the origin of petroleum from organic matter.
- 5(a). Discuss how (i) *Thiobacillus oxidans* and (ii) *Shewanella species* contribute to corrosion of oil pipelines
- 5(b). How would you modify the aerobic environment in order to prevent corrosion of oil pipelines?
6. Discuss how *Flavobacterium* can cause the deterioration of crude oil and its products both in natural conditions and in storage tank.