FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
DEPARTMENT OF MICROBIOLOGY
COURSE TITLE: PETROLEUM MICROBIOLOGY
COURSE CODE: MCB 522 (2 units)

SECOND SEMESTER EXAMINATION, 2016/2017 ACADEMIC SESSION

Instruction: Answer any 3 questions
Time allowed: $1^1/_2$ Hours

1(a) Write a short note on the following terms:
- (i) Biocompetitive exclusion
- (ii) Biodeterioration
- (iii) Biofilm
- (iv) Biogas composition
- (v) Dissimilatory sulphate reduction

1(b). Outline the mechanism of biodegradation of a named hydrocarbon.

1(c). Differentiate between detention time and retention time as it relates to anaerobic digestion.

2(a). Describe the microbiology of methanogenesis.

2(b). Outline the mechanism of corrosion by methanogenesis

2(c). List five impacts of sulphate reducing bacteria in the environment

3(a). Define Microbial Enhanced Oil Recovery (MEOR)

3(b). Discuss the different mechanisms of Microbial Enhanced Oil Recovery

4(a). Enumerate five characteristics of microorganisms that enable them to degrade petroleum products

4(b). Discuss the chemical composition of petroleum

5. In the petroleum industry, surface-active agents from microorganisms are preferred to synthetic surfactants. Discuss