FEDERAL UNIVERSITY OF TECHNOLOGY, MINNA
DEPARTMENT OF PLANT BIOLOGY
SECOND SEMESTER BTECH. EXAMINATION, 2017/2018 SESSION

COURSE CODE: BIO 325
COURSE TITLE: BIOTECHNOLOGY AND ENVIRONMENT
COURSE UNIT: 3
TIME ALLOWED: 2 HOURS

INSTRUCTION: ***ANSWER ANY FOUR (4) QUESTIONS IN ALL***

1 a. Discuss in detail the production of methane from an organic material
b. Write notes on the mechanism of metal-microorganism interaction of bioremediation

2 a. Discuss the importance of Biomass as the natural source of energy.
b. State five importance of anaerobic digestion to man and his environment.
c. Highlight the component of plant biomass

3 Write note on the following:
a. Bioaugumentation
b. Biomass
c. Biostimulation
d. Phytoremediation
e. Renewable Energy

4 a. What is Bioconversion?
b. Enumerate the factors affecting methane formation.
c. Using balance equations only, express the mechanism of methane formation.

5 a. Give a detailed explanation of*ex-situ* bioremediation base on the phases of contamination.
b. State three (3) merits and demerits of *in-situ* bioremediation.

6 a. In details, discuss the bioremediation of contaminated site using the indigenous naturally occurring microorganism.
b. Succinctly write on thermo-chemical conversion processes of biomass.