



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
2020_2 EXAMINATIONS

COURSE CODE: EMT304

COURSE TITLE: Hazardous Substance Management

CREDIT: 2Units

TIME ALLOWED: 2 Hours

Instruction: Attempt question number ONE (1) and any other THREE (3) questions. Question number one (1) carries 25marks, while the other questions carry (15) marks each.

- 1a). Describe bioreactor treatment of hazardous substances **(5 marks)**
b). Describe in detail deep well waste disposal system. **(5 marks)**
c). Discuss the natural routes or sources of hazardous substances into the environment **(10 marks)**
d). State five advantages of fluidized bed incineration system. **(5 marks)**
- 2a). What is ultimate disposal in terms of hazardous waste? **(3 marks)**
b). List two factors that influence ultimate disposal. **(2 marks)**
c). What do you understand as multiple hearth incineration system? **(5 marks)**
d). Describe in detail fluidized bed incineration system. **(5 marks)**
- 3a). Describe composting in terms of bio-treatment of hazardous substances. **(10 marks)**
b). Define controlled or an engineered landfill. **(3 marks)**
c). What is eutrophication? **(2 marks)**
- 4a). Discuss in detail acclimation procedure **(12 marks)**
b). Define hazardous substance. **(3 marks)**
- 5a). List three modifications that activated sludge has undergone **(3 marks)**
b). Describe each of these modifications. **(12 marks)**