



National Open University of Nigeria
Plot 91, Cadastral Zone, Nnamdi Azikiwe Expressway, Jabi - Abuja
Faculty of Science
SEPTEMBER 2020_1 EXAMINATION

COURSE CODE: EMT 304

COURSE TITLE: Hazardous Substances Management

CREDIT: 2 Units

TIME ALLOWED: 2 Hour

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

- 1a. Mention sources of hazardous substances into the environment **(2marks)**
- 1b. What is acclimation in waste treatment? **(2marks)**
- 1c. Explain the rules guiding the construction of surface impoundment **(6marks)**
- 1d. Discuss the criteria used in classifying waste and hazardous substances? **(5marks)**
- 1e. Briefly describe sample types **(4marks)**
- 1f. Write out steps to be considered during each sampling operation or events **(6marks)**

- 2a. Itemize the problems of hazardous substance management **(7marks)**
- 2b. Explain the environmental and geological factors affecting disposal sites **(8marks)**

- 3a. Discuss the environmental factors and parameters to be considered in choice of disposal site **(7marks)**
- 3 b. Explain the acclimation procedure in waste management? **(8marks)**

- 4a. List all the parameters involved in waste water preparation and characterization **(10marks)**
- 4b. Mention the advantages of fluidized bed incineration **(5marks)**

- 5a. List the thermal treatments that can be given to hazardous wastes **(2marks)**
- 5b. Discuss the process of thermal treatment of hazardous waste **(13marks)**