BOWEN UNIVERSITY
(OF THE NIGERIAN BAPTIST CONVENTION)
IWO, OSUN STATE.
College of Health Sciences,
Public Health Programme.

First Semester Examination – 2023/2024 Session
Environmental Health & Public Health Laws (PUH 305)

Date: Wednesday, 31st January, 2024; **Time:** 12:30 PM – 3:30 PM
Venue: Blue Hall – COHES; **Lecturer-in-Charge:** Olukoya E.O.

INSTRUCTIONS: This paper has three (3) questions, **answer any two (2) questions of your choice.**

1. Sewage refers to liquid waste containing faeces and its proper disposal is paramount because humans serve as the host of most of the diseases afflicting him and these disease agents are easily discharged via improper sewage disposal resulting in the pollution of different environmental media.
   a. Define, citing relevant examples where applicable, the following terms; **(4 marks)**

i. A host of disease
ii. Obligate host
iii. Secondary host
iv. Sewage
v. Sullage
vi. Sewer
vii. Influent
viii. Effluent

   b. Briefly discuss the importance of the 'World Toilet Day' stating the date of its commemoration, the theme for last year, and the key focus of its remembrance as contained in the campaign flyers of the Bowen University's Association of Public Health Students. **(5 marks)**
   c. Faecal-related diseases are disease caused through direct or indirect contact with substances or organisms that have been contaminated through faecal pollution.
      i. Briefly discuss as done in class, the four (4) categories of faecal-related diseases emphasizing the mode of transmission and examples of disease(s) caused. **(8 marks)**
      ii. Make a neat presentation of the traditional F-diagram showing the faecal-oral routes of disease transmission. **(5 marks)**
      iii. List out five (5) characteristics of an adequate sewage disposal system. **(5 marks)**
      iv. Explain the activated sludge sewage treatment process. **(8 marks)**

2. The 100-acre Olusosun dumpsite in Lagos state, Nigeria is the largest dumpsite in Africa and one of the largest globally. The landfill was formerly located on the outskirts of the state, however, due to population explosion, around 500 homes now exists at the site in shanty towns, whose occupants work at the dumpsite, scavenging for scrap to sell (Wikipedia, 2023).
    a. What is 'Solid Waste Management'? **(4 marks)**
    b. Discuss five (5) different hazards to which residents and workers at the Olusosun dumpsite are exposed to. **(10 marks)**
    c. Briefly discuss with practical examples, the basic 3-Rs of solid waste management. **(6 marks)**
    d. List five (5) different sources of solid waste. **(5 marks)**
    e. Mention five (5) challenges of solid waste management in Nigeria and proffer possible solutions to them. **(10 marks)**

3. Control of disease vector is one of the components of environmental health which has been in practice for quite a number of years and which is key to public health protection considering the widespread presence of these vectors, the varieties of disease transmitted and the burden of these diseases relative to diseases from other causes.
    a. Define the following terms, citing relevant examples where necessary; **(8 marks)**

i. Vector
ii. Vector-borne diseases
iii. Vector control
iv. Larvicide
v. Repellent
vi. Indoor residual spraying
vii. Anthropophilic
viii. Endophagic
ix. Exophilic
x. Nocturnal

    b. Briefly state the roles of the following scientists in vector control;
        i. Sir Ronal Ross. **(2 marks)**
        ii. Paul Hermann Muller. **(2 marks)**
        iii. Rachael Carson. **(2 marks)**
    c. Mention one disease whose agent is transmitted by the following vectors;
        i. Aedes mosquito. **(1 mark)**
        ii. Anopheles mosquito. **(1 mark)**
        iii. Tse-tse fly. **(1 mark)**
        iv. Black fly. **(1 mark)**
        v. Aquatic snail. **(1 mark)**
    d. Briefly discuss the methods of vector control under the following headings;
        i. Biological control. **(2 marks)**
        ii. Environmental control. **(2 marks)**
        iii. Chemical control. **(2 marks)**
        iv. Physical control. **(2 marks)**
    e. List four advantages of the integrated approach to vector control. **(8 marks)**