



NATIONAL OPEN UNIVERSITY OF NIGERIA
PLOT 91, CADASTRAL ZONE, NATIONAL AZIKIWE EXPRESSWAY, JABI-ABUJA
FACULTY OF HEALTH SCIENCES
DEPARTMENT OF ENVIRONMENTAL HEALTH SCIENCE
2025_2 EXAMINATIONS

COURSE CODE: EHS419

COURSE TITLE: SANITARY ENGINEERING

COURSE UNIT: 2 CREDIT UNITS

TIME ALLOWED: 1 ½ HOURS

TOTAL SCORE: 70 MARKS

INSTRUCTION: ANSWER ALL THE QUESTIONS

- 1a Define Sanitation **2 marks**
- 1b Highlight any five (5) effects of urbanization **10 marks**
- 1c Write a short note on the health effects of environmental degradation **5 marks**
- 1d List the three physical and chemical parameter analyzed in natural environments **3 marks**
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- 2a Write a short note on hydrological cycle **10 marks**
- 2b Explain the following as a method of water analysis
- i) Gravimetric analysis **3 marks**
 - ii) Volumetric analysis **3 marks**
- 2c List the four (4) requirements for volumetric analysis **4 marks**
- 2d Explain these following stages in water treatment **5 marks**
- i) Screening
 - ii) Aeration
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- 3a Discuss filtration **5 marks**
- 3b List 5 advantages and 5 disadvantages of chlorination **10 marks**
- 3c Under chemical treatment of waste water, discuss the following: **5 marks**
- i) Chemical precipitation
 - ii) Chlorination
- 3d Discuss the biological treatment method of sewage treatment **5 marks**