



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

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|--|-----------------|
| 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 | |
| | |
| 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 |