

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN ENVIRONMENTAL SCIENCE

ENSC 402: WATER AND SANITATION

STREAMS:BSC ENSC Y4S1

TIME: 2 HOURS

DAY/DATE: THURSDAY 13/12/2018

8.30 A.M – 10.30 A.M

INSTRUCTIONS:

- **Answer all the questions in section A and any other TWO questions in section B**
- **Do not write on the question paper**

SECTION A (30 MARKS)

1. Outline four problems associated with conventional water borne sanitation systems. [4 marks]
2. Highlight the parameters used to determine water quality. [6 marks]
3. Write short notes on the following terms as used in water and sanitation.
 - (a) Chemical oxygen demand [2 marks]
 - (b) Ecotone [2 marks]
 - (c) Fluorosis [2 marks]
4. Outline the effects of temperature changes on the volume of dissolved oxygen in a given water body. [4 marks]
5. Highlight four water borne diseases and indicate their causal organisms. [4 marks]
6. Briefly describe the concept of ecological sanitation. [6 marks]

SECTION B (40 MARKS)

7. Discuss the causes, impacts and possible solutions to water conflicts in Kenya. [20 marks]

marks]

8. You have been contacted by Nithi Water and Sanitation Company as a consultant to assist in the treatment of drinking water before it is supplied at the household level for consumption. Describe the procedure you will follow to ensure that the supplied water is clean and safe for consumption. [20 marks]
9. (a) Describe the various components of a constructed wetland and their roles. [10 marks]
(b) Discuss the merits and demerits of constructed wetlands. [10 marks]
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