

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATION

**RESIT/SUPPLEMENTARY / SPECIAL EXAMINATIONS
EXAMINATION FOR THE AWARD OF BACHELOR OF SCIENCE IN
ENVIRONMENTAL SCIENCE**

ENSC 443: WATER AND SANITATION

STREAMS: BSC. ENSC Y4S1

TIME: 2 HOURS

DAY/DATE: WEDNESDAY 11/08/2021

8.30 A.M - 10.30 A.M.

INSTRUCTIONS:

- Answer all in section A and any other two in section B.
- Do not write anything on the question paper

Section A: 30 Marks

Q1. Describe the characteristics of water resource crisis in Kenya (6 Marks)

Q2. Describe two factors that distinguish domestic water supplies from water supplies in other sectors (4 Marks)

Q3. Describe the six principles of ecological sanitation (6 Marks)

Q4. Briefly describe the following

- (a) Biological Oxygen Demand (2 Marks)
- (b) Chemical Oxygen Demand (2 Marks)
- (c) Fluorosis (2 Marks)

Q5. Using the following data for River Tungu provided below, calculate the River discharge (6 Marks)

Watershed area m ²	Surface Runoff M ³	Sub-surface flow M ³	Ground water flow M ³
1000	1200	497	700

SECTION B 40 Marks

Q6. Using an illustration describe the steps in sewage-water treatment system (20 Marks)

Q7. Discuss the major causes of water pollution and the associated mitigation measures (20 Marks)

Q8. Discuss the role of different institutions in the management of water resources under the revised water Act 2016 in Kenya. (20 Marks)

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