

**W1-2-60-1-6**

## JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

**UNIVERSITY EXAMINATIONS 2018/2019**

**YEAR 4 SEMESTER 2 EXAMINATIONS FOR THE DEGREE OF BACHELOR OF SCIENCE IN PUBLIC HEALTH**

**ICH 2311: WATER SAFETY AND QUALITY CONTROL**

**DATE: AUGUST 2019 TIME: 2 HOURS**

**INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A (COMPULSORY) AND ANY OTHER IN SECTION B**

SECTION A (48 MARKS)

1) Define the following terminologies (6 marks)

a) Turbidity

b) Transpiration

c) Precipitation

2) Describe 3 classifications of diseases related to water (6 marks)

3) Outline 6 potential roles of small-scale water providers from a livelihoods perspective

(6 marks)

4) Describe how human activities have created an imbalance in the hydrologic equation and affected the quantity and quality of natural water resources globally (6 marks)

5) Highlight any 3 benefits of harvesting rain water (6 marks)

6) Describe the role of flocculation and coagulation process and why it’s important in the water treatment process (6 marks)

7) Differentiate between porosity and permeability (6 marks)

8) Outline any 6 prevention and control measures for a holistic intervention approach to tackling water borne diseases (6 marks)

SECTION B (22 MARKS)

9) Integrated water resources management is based on the perception of water as an integral part of the ecosystem, a natural resource and a social and economic good, whose quality and quantity determine the nature of it’s utilization.

a) Discuss the integrated water resource management concept (8 marks)

b) Discuss the key water management issues that have necessitated for the keen focus of integrated water resource management globally (16 marks)

10) Using appropriate diagrams discuss three water-harvesting technologies in arid and semi-arid areas (22 marks)

11) Discuss the direct and indirect benefits of targeting women as well as men in developing water supply solutions in Kenya (22 marks)