

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

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2018/2019**

**SPECIAL/ SUPPLEMENTARY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN COMMUNITY HEALTH AND DEVELOPMENT**

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

**DATE: OCTOBER, 2019 TIME: 2 HOURS**

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

**SECTION A: 48 MARKS**

1. State the characteristics of water that lead to corrosion of metals.

(6 marks)

2. State one source and implications of each of the following substances if present in water:- (6 marks)

a. Chloride (2 marks)

b. Aluminium (2 marks)

c. Arsenic (2 marks)

3. Define the following terms:-

a. Conductivity (2 marks)

b. BOD (2 marks)

c. Turbidity (2 marks)

4. Describe water hardness. (6 marks)

5. State the factors that determine the quality of surface water. (6 marks)

6. State the characteristics of:-

a. Rain water. (3 marks)

b. Ground water. (3 marks)

7. Explain the constraints in ground water exploitation in Kenya?

(6 marks)

8. Describe water aeration process during treatment. (6 marks)

9. Describe the water mains used in water distribution. (6 marks)

**SECTION B: 22 MARKS**

10. Discuss the viral waterborne diseases. (22 marks)

11. Discuss the sewage treatment process. (22 marks)

12. Discuss water consumption survey. (22 marks)