



**JARAMOGI OGINGA ODINGA UNIVERSITY OF SCIENCE AND TECHNOLOGY**  
**SCHOOL OF HEALTH SCIENCES**  
**UNIVERSITY EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE**  
**PUBLIC HEALTH/COMMUNITY HEALTH AND DEVELOPMENT**  
**3<sup>rd</sup> YEAR 1<sup>ST</sup> SEMESTER 2017/2018 ACADEMIC YEAR**  
**MAIN CAMPUS**

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**COURSE CODE:   HPD 3312**

**COURSE TITLE:   LIQUID WASTE MANAGEMENT**

**EXAM VENUE:     STREAM: BSC. PUBLIC/COMM.HLTH & DEV**

**DATE:             EXAM SESSION:**

**TIME: 2.00 HOURS**

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**Instructions:**

- 1. Answer all the questions in Section A and 2 questions in Section B.**
- 2. Candidates are advised not to write on the question paper.**
- 3. Candidates must hand in their answer booklets to the invigilator while in the examination room.**

## **SECTION A**

1. Define the term environmental health according to WHO (1 mark)
2. Explain the term liquid waste management (3 marks)
3. Define the term sewerage system (1mark)
4. Define the term sewer (1 mark)
5. Define the term drain (1 mark)
6. Explain the term water-born sanitation (4 marks)
7. Explain the term drainage system ( 3 marks)
8. Explain the term soil water (3 marks)
9. State three advantages of one pipe system (5 marks)
10. State the difference between one pipe system and two pipe system (4 marks)
11. Explain the difference between a soak-pit and a septic tank (4 marks)

## **SECTION B**

1. Explain the characteristics of liquid wastes (20 marks)
2. Explain the principles of sound drainage (20 marks)
3. (a) Explain the importance of waste water treatment (10 marks)  
(b) Explain the difference between oxidation ponds and septic tank (10 marks)
4. Cholera is one of the faeco-oral transmitted diseases transmitted through contaminated environment. Explain this statement (20 marks)