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**University Examinations 2015/2016**

THIRD YEAR, FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE IN PUBLIC HEALTH

**HPP 3303: LIQUID WASTE MANAGEMENT**

**DATE: NOVEMBER 2015 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Describe the following; (3 Marks)
2. Eutroplication (1 Mark)
3. BOD (1 Mark)
4. TSS (1 Mark)
5. Media in a percolating filter (1 Mark)
6. Explain what led to extensive construction of sewer systems in the late 19th and early 20th in century?

(2 Marks)

1. Explain who are the actors in the planning and implementation of sewage or waster water management facilities. (4 Marks)
2. Explain what is referred to as waster water in liquid management (2 Marks)
3. List two criteria used in the concept of sustainable waste water treatment options (2 Marks)
4. Explain what is BOD in sewage treatment (2 Marks)
5. Enumerate 5 various indicators organisms as used in liquid wastes management (3 Marks)
6. Explain why the inlet and outlet pipes of a used bed positioned below the gravel? (4 Marks)
7. Explain why public health experts treat waste water (4 Marks)
8. List four secondary waste water treatment devices (4 Marks)

**QUESTION TWO (20 MARKS)**

1. Discuss the process of primary treatment of liquid wastes

**QUESTION THREE (20 MARKS)**

1. Discuss the process of secondary treatment of liquid wastes, giving the specifications of the sedimentation tank.

**QUESTION FIVE (20 MARKS)**

Discuss the merits and demerits of using a waste water stabilization pond