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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: AUGUST 2016 TIME: 2HOURS**

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

**QUESTION ONE (30MARKS)**

1. Identify three criteria used in the determination of waste water treatment methods. (3 Marks)
2. Define the following:
3. Sewage (1 Mark)
4. Sewerage (1 Mark)
5. 5-day BoD (1 Mark)
6. Ultimate BoD (1 Mark)
7. CoD (1 Mark)
8. Municipal waste water. (1 Mark)
9. Summarize indicator organisms likely to be found in sewage. (3 Marks)
10. Distinguish between grit removal and screening. (3 Marks)
11. Describe the constituents of sewage. (4 Marks)
12. Illustrate the specifications of a primary redimentation tank. (3 Marks)
13. Give examples of experts involved in the design planning and implementation of wastes water management facilities in Kenya. (5 Marks)
14. Trace the milestone of extensive construction of sewage systems. (3 Marks)

**QUESTION TWO (20 MARKS)**

Show that use of waste water from stabilization ponds could be a source of fish for human consumption. (20 Marks)

**QUESTION THREE (20 MARKS)**

Compare the merits of treating sewage in a septic tank and off-site treatment in a centralized system. (20 Marks)

**QUESTION FOUR (20 MARKS)**

Analyze the process of sewage treatment by use of a percolating filter. (20 Marks)