



# MACHAKOS UNIVERSITY

University Examinations for 2021/2022

SCHOOL OF HEALTH SCIENCES

DEPARTMENT OF PUBLIC AND COMMUNITY HEALTH

SECOND YEAR FIRST SEMESTER EXAMINATION FOR

BACHELOR OF SCIENCE (PUBLIC HEALTH)

HPH 212: CONSERVANCY AND DRAINAGE

DATE:

TIME:

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## INSTRUCTIONS:

This paper consists of two sections A and B

### SECTION A

#### Specific Instructions

- This section has one question
- The question is compulsory
- The question is 30 marks

#### QUESTION ONE (30 MARKS)

- a) Define the following terms (3 marks)
- i. Conservancy
  - ii. Seepage
  - iii. Water-washed diseases
- b) Outline the factors to consider when choosing a suitable conservancy system (4 marks)
- c) Explain the major setbacks of a conservancy system (4 marks)
- d) Highlight role of ventilation and lighting in a conservancy system (4 marks)

- e) Outline the design characteristics of an alternating pit latrine (3 marks)
- f) Highlight the costing considerations for an aqua privy (4 marks)
- g) Outline the role of pathogen removal recycling (3 marks)
- h) Explain the measures taken to protect the water table from pollution during latrine design and construction. (4 marks)

## **SECTION B:**

### **Specific Instructions**

- **This Sections has four (4) questions**
- **Answer any two (2) questions**
- **Each question is 20 marks**

### **QUESTION TWO (20 MARKS)**

- a) Compare and contrast between a simple pit latrine and ventilated improved pit latrine (10 marks)
- b) Community Led Total Sanitation (CLTS) has improved health outcomes in Western Kenya. Discuss its impacts on human health in the region. (10 marks)

### **QUESTION THREE (20 MARKS)**

- a) The public health act (Cap 242) is insufficient in safeguarding human health from poor excreta disposal. Critique this statement (12 marks)
- b) As a public health officer in Kitui County, You are tasked with implementing participatory hygiene and sanitation transformation (PHAST), Discuss the steps to follow (8 marks)

### **QUESTION FOUR (20 MARKS)**

- a) Kibera Slums in Nairobi and Obunga in Kisumu continue to witness poor excreta disposal through flying toilets. As a public health officer, discuss the strategies and measures that would enhance community awareness (12 marks)
- b) Explain the processes of aerobic and anaerobic digestion as applied in a conservancy system. (8 marks)

### **QUESTION FIVE (20 MARKS)**

- a) Explain the design considerations of a pour flush latrine (10 marks)
- b) Poor excreta disposal is a leading cause of morbidity and mortality. Discuss (10 marks)