



TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF ENGINEERING AND TECHNOLOGY

DEPARTMENT OF MEDICAL ENGINEERING

UNIVERSITY EXAMINATION FOR:

DIPLOMA IN MEDICAL ENGINEERING

EHL 2202: SANITATION & ENVIRONMENTAL MANAGEMENT

END OF SEMESTER EXAMINATION

SERIES: DECEMBER 2016

TIME: 2 HOURS

DATE: 9 Dec 2016

Instructions to Candidates

You should have the following for this examination

-Answer Booklet, examination pass and student ID

This paper consists of **FIVE** questions. Attempt question ONE (Compulsory) and any other TWO questions.

Do not write on the question paper.

Question ONE

- a) State any **FOUR** advantages and disadvantages of ventilated improved pit (VIP) latrine **8 Marks**
- b) i) Differentiate between photo chemical smog and industrial smog
ii) Outline any **FIVE** effects of Acid Rain on the environment **14 Marks**
- c) Differentiate between Re-use and Recycling as a method of municipal waste control/management **8 Marks**

Question TWO

1. a) i) Define the following terms:-
I) Sanitation
II) Biological pollution
III) Biochemical Oxygen Demand(BOD)
IV) Bio accumulation
- ii) Differentiate between primary and secondary pollutants **8 Marks**
- b) Explain the process of sewage treatment by waste stabilisation ponds/lagoons **12Marks**

Question THREE

- a) State any **FIVE** effects of radiation on human body **5 Marks**
- b) i) Differentiate between lethal concentration(LC 50) and effective concentration(EC 50) as used in chemical exposure
ii) State any **FIVE** factors that determine the danger of toxicity or chemical concentration **9 Marks**
- c) Outline any environmental effects of Global warming **6 Marks**

Question FOUR

a) Differentiate the following pair of terms:-

- i) Chronic effects and acute effects
- ii) Carcinogenic and teratogenic substances
- iii) Biomagnification and Bioaccumulation

12 Marks

b) Outline any **FOUR** effects of oxygen demanding waste in water

8 Marks

Question FIVE

a) Describe the following methods of waste disposal as used in hospitals:-

- i) Open dumping
- ii) Incineration
- iii) Composting

15 Marks

b) State any **FIVE** disadvantages of waste stabilisation pond/lagoon

5 Marks

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