TECHNICAL UNIVERSITY OF MOMBASA

FACULTY OF APPLIED AND HEALTH SCIENCES

DEPARTMENT OF ENVIRONMENT & HEALTH SCIENCES

UNIVERSITY EXAMINATION FOR:

BACHELOR OF TECHNOLOGY IN RENEWABLE ENERGY (BTRE13S)
SEMESTER II

AES 4342 ENVIRONMENTAL POLLUTION STUDIES AND CONTROL

SERIES: APRIL/MAY 2016

TIME: 2 HOURS

Instructions to Candidates

This paper consists of FIVE questions

Answer question ONE (COMPULSORY) and any other TWO questions

This paper consists of two printed pages.

Question One (Compulsory)

a. Define the following terms (**5 marks)**

i. Air quality monitoring
ii. Pollution remediation
iii. Nuclear pollution
iv. Greenhouse gases
v. Chemical oxygen demand (COD).

b. Describe ways which industrial revolution practices facilitated environmental resources deteriorations (**4marks**)
c. Describe ways through which decomposition of pollutants takes place. (**4marks**).
d. Explain the different means that air pollutants are removed from the atmosphere (**4marks**).
e. Describe the major drivers of environmental pollution (**3marks**).
f. State and explain three (3) effects of water pollution. (**3marks).**
g. Describe two (2) major types of man-made air pollution sources. (**4marks**)
h. Explain three (3) approaches used in odour monitoring/investigation. (**3 marks**).

Question Two

a. Discuss the common atmospheric pollutants and their sources (**10marks**).
b. Describe the basic elements for deriving clean air implementation plan (or air pollution abatement plan) in air pollution management (**10marks**).

Question Three

Discuss the general classification of wastewater treatment operations and processes. (**20marks**).

Question Four

a. Discuss the conditions that should be considered when conducting risk assessment of pollutants in a water body. (**10marks**).
b. Using an illustration, describe nutrients sources and sinks in water body eg lake system, indicate the impacts of the nutrients in the water system (**10marks**).

Question Five
Discuss ways by which transportation and land-use planning can help mitigate environmental pollution. (**20marks**).