CHUKA  **UNIVERSITY**

UNIVERSITY EXAMINATIONS

FOURTH YEAR EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOMEDICAL SCIENCE AND TECHNOLOGY

BMED 421: TOXICOLOGY AND ENVIRONMENTAL PYSIOLOGY

STREAMS: BMED **TIME: 2 HOURS**

DAY/DATE: TUESDAY 05/12/2017 **8.30 A.M. – 10.30 A.M.**

INSTRUCTIONS:

- **ANSWER QUESTION ONE AND ANY TWO QUESTIONS**
- **DO NOT WRITE ON THE QUESTION PAPER**

QUESTION ONE (30 MARKS)

(a) Differentiate between toxicant and a toxin. [4 marks]

(b) Briefly describe the functions of Nuclear Regulatory Commission (NRC) [4 marks]

(c) Define biomagnifications and give the characteristics of pollutants that have the capacity to be biomagnified. [5 marks]

(d) DDT is a very toxic pollutant that persists for long in the environment. Discuss briefly the problems associated with exposure to DDT. [6 marks]

(e) Substances that are reasonably anticipated to be human carcinogens meet which descriptions? [4 marks]

(f) What are the various Ecotoxicogenomic approaches in environmental monitoring. [7 marks]

QUESTION TWO (20 MARKS)

(a) Describe briefly the various classifications of toxic compounds. [10 marks]

(b) Mercury is among the pollutants that undergo biomagnifications. Discuss. [10 marks]

QUESTION THREE (20 MARKS)

(a) What are the basic mechanisms of xenobiotic transmembrane transport? [10 marks]

(b) Describe in detail the use of microorganisms in toxicity bioassays. [10 marks]

QUESTION FOUR (20 MARKS)

(a) Several research findings have shown Cytochrome P450 to be associated with risks of getting certain cancers. Discuss. [10 marks]

(b) By giving three relevant examples, explain the function of chalates. [5 marks]
