

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATION

RESIT/SPECIAL EXAMINATION

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN
BMET 423/BMED 421: TOXICOLOGY ENVIRONMENTAL PHYSIOLOGY**

STREAMS:

TIME: 2 HOURS

DAY/DATE: MONDAY 01/11/2021

8.30 A.M – 10.30 A.M

INSTRUCTIONS

Answer question one and any other two questions

Question 1 (Compulsory) (30 marks)

- a) Explain 3 applications of pollution biomarkers in healthcare. (6 marks)
- b) Differentiate between acute and chronic toxicity. (4 marks)
- c) Explain 'dose-response' as used in toxicology. (2 marks)
- d) Why is a point source of pollution easier to identify than a non-point source of pollution?
- e) Briefly describe four processes by which environment reduce worst effects of many pollutants. (4 marks)
- f) Highlight 4 applications of the knowledge in toxicology healthcare. (4 marks)
- g) Explain five medical importances of detoxification. (5 marks)
- h) Describe the application of dose-response curves in the study of toxicity of substances. (5 marks)

Question 2 (20 marks)

- a) State and explain 5 air pollutants and effects on human health. (10 marks)
- b) Discuss five detoxification reactions involving conjugation using specific examples. (10 marks)

Question 3 (20 marks)

- a) Outline 10 strategies employed in poison prevention and control. (10 marks)

- b) Using a suitable diagram, describe reaction types between a toxicant and target molecule, and indicate possible outcomes of this interaction. (10 marks)

Question 4 (20 marks)

- a) Discuss five factors affecting membrane transport of toxicants (10 marks)
- b) Describe five membrane transport processes of xenobiotics including their characteristics. (10 marks)
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