CHUKA UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF CERTIFICATE IN ANINAL HEALTH AND PRODUCTION

ANHE 00127: BASIC PHARMACOLOGY AND TOXICOLOGY

STREAMS: CERT. AHNE (Y2S1) **TIME: 2 HOURS**

DAY/DATE: TUESDAY 06/08/2019 **8.30 A.M. – 10.30 A.M.**

INSTRUCTIONS:

- **Answer ALL questions in section A and any TWO in section B (70 marks)**

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION (40 MARKS)

1. Differentiate between the following terms;

   (i) Pharmacodynamics and pharmacokinetics. (2 marks)

   (ii) Poison and toxin. (2 marks)

   (iii) Synergistic effect and addictive effect of drugs. (2 marks)

   (iv) Brand name and generic name of a drug. (2 marks)

2. State FOUR conditions that a drug must satisfy in order to be administered via the intravenous (i/v) route. (4 marks)

3. (a) Define the term bioavailability. (2 marks)

   (b) List the factors that affect drug distribution in the body. (5 marks)

4. (a) Give FIVE main "Bacteria targets" of antimicrobial drugs. (5 marks)

   (b) Name the cellular function that is inhibited by;
   (i) Tetracycline (2 marks)
   (ii) Penicillin (2 marks)

5. State TWO factors that determine the approach to treatment of poisoning. (2 marks)

6. Explain the difference between Phase I and Phase II of drug metabolism. (4 marks)

7. The dosage of drugs administered to animals is calculated on the basis of concentration of the drug presented and the weight of the animal. If you are provided with Alamycin (10% Oxytetracycline) and the label tells you that the dosage for a cow suffering from Anaplasmosis is 10mg/kg body weight given by intramuscular injection;

   (i) Calculate the amount of drug in mls that you would administer to a cow weighing 300 kg. (3 marks)

   (ii) How many mls would you administer to the same cow if it was Alamycin (5% Oxytetracycline). (3 marks)

SECTION B: ANSWER ANY TWO QUESTIONS IN THIS SECTION (30 MARKS)

8. (a) Briefly explain how the following factors affect drug absorption in the gastro-intestinal tract

   (i) Physical and chemical interaction with co-administered drug. (5 marks)

   (ii) Ionization. (5 marks)

   (b) Describe the mechanism that a drug could use to inhibit cell wall synthesis. (5 marks)

9. Discuss the factors that should be considered when selecting an antibiotic to treat an infectious disease. (15 marks)

10. (a) Describe the sources of lead poisoning in cattle. (5 marks)

    (b) Discuss the factors that predispose animals to bracken fern poisoning. (10 marks)
