

CHUKA



UNIVERSITY

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EXAMINATION FOR THE AWARD OF DIPLOMA IN ANIMAL HEALTH AND PRODUCTION

ANHE 0318: PHARMACOLOGY

STREAMS: DIP ANHE Y2S2

TIME: 2 HOURS

DAY/DATE: MONDAY 4/12/2017

11.30 A.M – 1.30 P.M

INSTRUCTIONS:

- **Answer all questions in section A and any two in section B (70 marks)**
1. (a) Define the following terms as used in pharmacology
 - (i) Drug absorption [2marks]
 - (ii) Therapeutic index [2marks]
 - (iii) First-pass effect [2marks]
 - (iv) Bioavailability [2marks]
 - (v) Parenteral drug administration [2marks]
 2. Name different factors that influence the fate of drugs once administered in the body. [4marks]
 3. List and explain any two applications of combined drug administration. [4marks]
 4. Name the primary site of drug metabolism. [2marks]
 5. Explain how protein binding affects drug distribution. [5marks]
 6. The dosage of drugs administered to animals is calculated on the basis of the concentration of the drug presented and the weight or size of the animal. If you were presented with a drug named Acamycin (200mg/ml oxytetracycline), and the label tells

you that the dosage for a cow suffering from pneumonia is 10mg/kg body weight given by intramuscular injection.

(i) Calculate the amount of the drug in mg you would administer to 400kg animal. [2marks]

(ii) Calculate the amount of drug in mls you would administer to a 400kg animal. [3marks]

SECTION B: Answer any two questions in this section (40marks)

7. (a) Briefly discuss the mechanisms by which the development of resistance to chemotherapeutic agents occur. [8marks]
- (b) Explain various methods that one can use to slow down the rate of drug absorption after administration from the subcutaneous route. [12marks]
8. Explain how the following factors affect drug metabolism;
- (a) Feeding [10marks]
- (b) Enzyme induction [10marks]
9. Describe the mechanism of action of the following antibiotics;
- (a) Aminoglycosides. [10marks]
- (b) Penicillin [5marks]
- (c) Tetracycline [5marks]
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