

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

SECOND YEAR EXAMINATION FOR THE AWARD OF DIPLOMA  
IN HEALTH AND PRODUCTION

ANHE 0227: PHARMACOLOGY AND TOXICOLOGY

STREAMS: DIP. ANHE

TIME: 2 HOURS

DAY/DATE: TUESDAY 05/12/2017

8.30 A.M. – 10.30 A.M.

INSTRUCTIONS: ANSWER ALL QUESTIONS IN SECTION A AND ANY TWO IN SECTION B

SECTION A: ANSWER ALL QUESTIONS IN THIS SECTION (30 MARKS)

1. (a) Distinguish between rational therapeutics and empirical therapeutics.[4 marks]  
(b) Which of the above therapeutic is appropriate for effective disease control?  
[2 marks]
2. List various factors that affect drug absorption from the gastrointestinal tract.[7 marks]
3. Give the objectives of ethical use of drugs and agrochemicals. [5 marks]
4. Mention various mechanisms by which organisms can acquire drug resistance.[4 marks]
5. Name different biological factors that affect the activity of poisons. [3 marks]
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 Alamycin (20% Oxytetracycline), and the label tells you that the dosage for a cow suffering from Anaplasmosis is 10 mg/kg body weight given by intramuscular injection.
  - (i) Calculate the amount of the drug in mg you would administer to 300kg animal.  
[2 marks]
  - (ii) Calculate the amount of drug in mls you would administer to a 300kg animal.  
[3 marks]

**SECTION B: ANSWER ANY TWO QUESTIONS IN THIS SECTION (40 MARKS)**

7. Describe the mechanism of action of the following drugs:
- (a) Sulfonamides [4 marks]
  - (b) Tetracycline [5 marks]
  - (c) Penicillin [5 marks]
  - (d) Streptomycin [6 marks]
6. Explain how the following factors affect the rate of drug distribution:
- (a) Protein binding of a drug [10 marks]
  - (b) Plasma concentration of a drug [5 marks]
  - (c) Affinity of drugs to certain organs [5 marks]
7. Discuss the management of poisoning in domestic animals under the following headings:
- (a) Prevention of further absorption [10 marks]
  - (b) Supportive therapy [5 marks]
  - (c) Antidotal therapy [5 marks]
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