

**CHUKA**



**UNIVERSITY**

**UNIVERSITY EXAMINATIONS**

**EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR  
BIOMEDICAL TECHNOLOGY**

**BMET 336: INTRODUCTION TO PHARMACOLOGY**

**STREAMS: BMET**

**TIME: 2 HOURS**

**DAY/DATE: FRIDAY 09/7/2021**

**2.30 P.M. – 4.30 P.M.**

**INSTRUCTIONS: Answer question ONE and any other TWO questions**

**QUESTION 1 (COMPULSORY) (30 MARKS)**

- a) Explain giving examples the difference between bacteriostatic and bactericidal drug action. (4 Marks)
- b) Outline 4 clinical indications for Praziquantel. (4 Marks)
- c) Antimalarial drugs are classified by their selective actions on the parasite's life cycle. Describe four (4) classes of antimalarials and give specific examples in each case. (8 Marks)
- d) Explain 5 host factors to be considered in the selection of an antibiotic. (5 Marks)
- e) (i) Explain why Trimethoprim-Sulfamethoxazole (Cotrimoxazole) combination is preferred over a single use of either of the drug. (2 Marks)  
(ii) Outline 3 clinical uses of the combination in (i) above. (3 Marks)
- f) Discuss briefly transcutaneous route of drug administration. (4 Marks)

**QUESTION 2 (20 MARKS)**

- a) Zidovudine is an antiretroviral agent with *in vitro* activity against HIV-1, HIV-2, and the human T cell lymphotropic viruses. Describe its mode of action, efficacy, pharmacokinetics, resistance and adverse reactions. (10 Marks)

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b) Describe 5 physiological factors that influence drug absorption and bioavailability.

(10 Marks)

### **QUESTION 3 (20 MARKS)**

a) Describe briefly pharmacodynamics drug interactions

(10 Marks)

b) Individuals differ both in the degree and the character of the response that a drug may elicit and therefore the optimum dose of a drug which produces the desired therapeutic effect varies from person to person. Describe 5 important factors which influence the effect of a drug in individuals.

(10 Marks)

### **QUESTION 4 (20 MARKS)**

a) Explain in detail 5 routes of drug excretion.

(10 Marks)

b) Describe the processes involved in development and evaluation of new drug molecules.

(10 Marks)

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