

FEDERAL UNIVERSITY OF TECHNOLOGY, OWERRI  
SCHOOL OF PHYSICAL SCIENCES  
DEPARTMENT OF SCIENCE LABORATORY TECHNOLOGY  
HARMATTAN SEMESTER EXAMINATION 2013/2014 SESSION  
STC 411: PHARMACOLOGICAL BIOCHEMISTRY  
TIME ALLOWED: 3 HOURS  
INSTRUCTION: ANSWER FIVE (5) QUESTIONS

1. (a) What is drug resistance?  
(b) Describe five factors affecting drug efficacy.
2. (a) Discuss the use of some combinations of known Nigerian medicinal plants in the treatment of malaria.  
(b) State four medicinal plants that can be used in the treatment of sexually transmitted diseases in Nigeria
3. (a) Write short notes on the following: (i) glucuronide conjugation (ii) sulphate conjugation (iii) N-acetylation (iv) glutathione conjugation.  
(b) Explain the modes of action of the following drugs (i) aspirin (ii) tolbutamide.
4. Write a short note on the definition of the term "Drug" and list the physics and chemistry involved in drug-receptor interaction.
5. Write short notes on the following theories of drug action: (a) Occupation theory. (b) Intrinsic activity theory. (c) Spare receptor theory.
6. Enumerate the factors responsible for the virulence of microorganisms either by affecting its invasiveness and/or its toxigenicity.
7. (a) What are metabolism and metabolic pathways?  
(b) Show the functions of metabolism, diagrammatically in relation to the metabolic utilization of nutrient molecules.  
(c) Show in what way(s) metabolism is relevant to pharmacology.