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FACULTY OF BASIC MEDICAL SCIENCES  
Department of Biochemistry  
B.Sc (Hons) Biochemistry Degree Examination  
Second Semester 2015/2016 Session

BCH 418 – Pharmacological Biochemistry

August, 2016

Time Allowed: 3hrs

Instructions: Answer question ONE and any other two questions

1. (a) List any five (5) drugs (provided by you in the assignment) stating the brand name, generic name and its therapeutic indications.  
(b) Distinguish between a pharmacodynamic agent and a chemotherapeutic agent  
(c) (i) What do you understand by the term drug action (ii). Distinguish between the action of a drug and the effect of a drug  
(d) State the different types of interaction that can occur at the site of a drug action  
(e) Define the term (i) drug resistance (ii) multi-drug resistance
2. Chloroquine is a one of the oldest drug indicated as an antimalaria. Discuss its biochemical mechanism of action as a therapeutic antimalarial drug.
3. State briefly the biochemical basis of action of (i) aspirin (acetylsalicylic acid) in relation to reducing inflammation (ii) the antibiotic, penicillin in inhibiting bacterial growth (iii) methotrexate as an anti-neoplastic agent  
*Cancer*
4. Discuss the major mechanisms of antibiotic drug resistance
5. Acetaminophen is a common across-the counter drug which is indicated as an analgesic and antipyretic medication however, an overdose of this drug can elicit hepatotoxicity. Discuss  
*Drug inactivation or modification - some bacteria can modify the drug to something less harmful  
Alteration of target site by affecting  
Alteration metabolic pathway  
Reduced drug accumulation*