



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)  
UNIVERSITY EXAMINATIONS (MAIN PAPER)  
2023/2024 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN MEDICAL LABORATORY  
SCIENCES**

**COURSE CODE: BML 417**

**COURSE TITLE: CLINICAL PHARMACOLOGY AND  
THERAPEUTICS**

**DATE: 8<sup>TH</sup> DECEMBER 2023**

**TIME: 8.00-10.00AM**

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**INSTRUCTIONS TO CANDIDATES**

This paper is divided into three sections, A B and C, carrying respectively: Multiple Choice Questions (MCQs), Short Answer Questions (SAQs) and Long Answer Questions (LAQs). Answer all questions. **DO NOT WRITE ON THE QUESTION PAPER**

**TIME: 2 Hours**

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over

**SECTION A: Multiple Choices Questions (20 Marks)**

1. Which one of following is a mucolytic agent?
  - A. Carbocysteine
  - B. Pholcodine
  - C. Dextromethorphan
  - D. Codeine
2. Which one of following is not a cough suppressant?
  - A. Carbocysteine
  - B. Pholcodine
  - C. Dextromethorphan
  - D. Codeine
3. Which one of the following is not an histamine 1 receptor selective antihistamines?
  - A. Chlorpheniramine
  - B. Meclizine
  - C. Promethazine
  - D. Cimetidine
4. Which one of the following is a none-sedating antihistamine?
  - A. Loratidine
  - B. Chlorphenamine
  - C. Clemastine
  - D. Hydroxyzine
5. Which one of the following is the drug of choice for treating *Trichomonas vaginalis*?
  - A. Cefaclor
  - B. Doxycycline
  - C. Penicillin G
  - D. Metronidazole
6. Which one of the following is used as a booster protease inhibitor to specifically increase the plasma concentration of other protease inhibitors?
  - A. Saquinavir
  - B. Lopinavir
  - C. Ritonavir
  - D. Nelfinavir
7. Which one of the following is the drug of choice in the treatment of onchocerciasis?
  - A. Albendazole
  - B. Mebendazole
  - C. Levamisole
  - D. Diethylcarbamazine
8. Which one of the following drugs is a 5-lipoxygenase inhibitor that is used in treatment of bronchial asthma?
  - A. Celecoxib
  - B. Naproxen
  - C. Sulfasalazine
  - D. Zileuton

9. Which one of the following is appropriate for clinical use as an anticoagulant in patients with renal failure?
  - A. Enoxaparin
  - B. Fondaparinux
  - C. Unfractionated heparin
  - D. Warfarin
10. The emergence of antimicrobial drug resistance.....
  - A. Requires the concurrent administration of multiple drugs
  - B. Is a direct result of the use of antibiotics in livestock
  - C. Is a problem that was overcome by the development of vancomycin
  - D. Is due in large part to the misuse of antibiotics in humans and livestock
11. The most effective drug in the treatment of cestode and trematode infection is.....
  - A. Mebendazole
  - B. Metronidazole
  - C. Praziquantel
  - D. Pyrimethamine
12. Which one of the following antibiotics is contra-indicated for a patient known to have a congenital deficiency of glucose-6-phosphate dehydrogenase?
  - A. Ciprofloxacin
  - B. Amoxicillin
  - C. Doxycycline
  - D. Sulfamethoxazole
13. A patient suffering from exertional angina, is given nitroglycerin sublingually because this mode of administration.....
  - A. Bypasses the coronary circulation
  - B. Causes less reflex tachycardia than oral administration
  - C. Has a decreased tendency to cause methemoglobinemia
  - D. Avoids first-pass hepatic metabolism
14. Which one of the following drugs is most suitable in an immunocompromised patient for prophylaxis against *Cryptococcus neoformans* infection?
  - A. Amphotericin B
  - B. Fluconazole
  - C. Nystatin
  - D. Flucytosine
15. Which one of the following drugs is the most appropriate for the management of pseudomembranous colitis in a patient who has an established hypersensitivity to metronidazole?
  - A. Ampicillin
  - B. Clindamycin
  - C. Doxycycline
  - D. Vancomycin

16. What is the ideal prophylactic drug for a patient who has had paroxysmal atrial tachycardia attacks?
  - A. Adenosine
  - B. Procainamide
  - C. Nifedipine
  - D. Verapamil
17. Which one of the following drugs is drug of choice for Parkinson's disease?
  - A. Celecoxib
  - B. Naproxen
  - C. Levodopa
  - D. Fluoxetine
18. Which one of the following drugs is likely to enhance the effects of bradykinin?
  - A. Clonidine
  - B. Lisinopril
  - C. Losartan
  - D. Propranolol
19. Which one of the following is first line an antimycobacterial drug?
  - A. Isoniazid
  - B. Norfloxacin
  - C. Cycloserine
  - D. Cefotaxime
20. Which one of the following is atypical antipsychotic drug?
  - A. Clozapine
  - B. Chlorpromazine
  - C. Haloperidol
  - D. Fluphenazine

**SECTION B: Short Answer Questions (40 Marks)**

1. Describe the following
  - a) Empirical antibacterial therapy (2.5 marks)
  - b) Definitive antibacterial therapy (2.5 marks)
2. Explain the mechanism of coughing associated with angiotensin converting enzyme (ACE) inhibitors (5marks)
3. Name five selective COX-2 non-steroidal anti-inflammatory drugs (5 marks)
4. Using specific examples state five drug classes that are used in the management of nausea and vomiting (5 marks)
5. Explain the mechanism of action penicillin G and state four clinical uses (5marks)
6. List five clinical indications of metronidazole (5marks)
7. Enumerate five Inhaled corticosteroids that can be used in control of asthma (5marks)
8. Explain the rationale of co-administering levodopa and carbidopa in treatment of Parkinson's disease (5marks)

**SECTION C: Long Answer questions (60 Marks)**

1. Discuss the pharmacology of five classes of antiretroviral drugs and outline the first line regimen for adolescents and adults in Kenya. (20 marks)
2. Discuss the pharmacology of any five drug classes used in management of hypertension (20 marks)
3. Discuss the clinical pharmacology of five classes of antidepressant drugs (20marks)