



*(University of Choice)*

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY  
(MMUST)**

**MAIN CAMPUS**

**UNIVERSITY EXAMINATIONS  
2022/2023 ACADEMIC YEAR**

**FOURTH YEAR FIRST SEMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
BACHELOR OF SCIENCE IN CLINICAL MEDICINE AND  
PHYSIOTHERAPY PROGRAMS**

**(MAIN PAPER)**

**COURSE CODE: HCM 255/BSP 223**

**COURSE TITLE: CLINICAL PHARMACOLOGY AND THERAPEUTICS II**

**DATE: MONDAY 17<sup>TH</sup> APRIL 2023**

**TIME: 8:00-10:00 AM**

**Instructions**

**Time 2 hours**

**Answer all questions**

**Section A comprise of 20 MCQs 1 mark each**

**Section B comprise 8 short answer questions: a total of 40 marks**

**Section C comprises of 3 long essay questions: 20 marks each**

## Section A comprise of 20 MCQs, 1mark Each

1. Which of following is NOT a mucolytic agent?
  - A. Acetylcysteine
  - B. Carbocysteine
  - C. Erdosteine
  - D. Codeine
2. Which of following is a mucolytic agent?
  - A. Carbocysteine
  - B. Pholcodine
  - C. Dextromethorphan
  - D. Codeine
3. Which of following is NOT a cough suppressant?
  - A. Carbocysteine
  - B. Pholcodine
  - C. Dextromethorphan
  - D. Codeine
4. Which of the following is NOT an histamine 1 receptor selective antihistamine?
  - A. Chlorpheniramine
  - B. Meclizine
  - C. Promethazine
  - D. Cimetidine
5. Which of the following is a non-sedating antihistamine?
  - A. Loratidine
  - B. Chlorphenamine
  - C. Clemastine
  - D. Hydroxyzine
6. Which one of the following is the drug of choice for treating *Trichomonas vaginalis*?
  - A. Cefaclor
  - B. Doxycycline
  - C. Penicillin G
  - D. Metronidazole
7. 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
8. Which one of the following is the drug of choice in the treatment of onchocerciasis?
- A. Albendazole
  - B. Mebendazole
  - C. Levamisole
  - D. Diethylcarbamazine
9. Which 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
10. 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
11. 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
12. The most effective drug in the treatment of cestode and trematode infection is:
- A. mebendazole
  - B. metronidazole
  - C. praziquantel
  - D. pyrimethamine
13. Which of the following antibiotics would NOT be suitable for a patient known to have a congenital deficiency of glucose-6-phosphate dehydrogenase?
- A. ciprofloxacin
  - B. amoxicillin
  - C. doxycycline
  - D. sulfamethoxazole

14. 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
15. 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.
16. Which 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
17. What is the ideal prophylactic drug for a patient who has had paroxysmal atrial tachycardia attacks?
- A. adenosine
  - B. procainamide
  - C. nifedipine
  - D. verapamil
18. Which of the following antihypertensive drugs is to be used with extra caution and advice to a hypertensive patient who is also taking insulin for diabetes melitus treatment?
- A. hydralazine
  - B. prazosin
  - C. propranolol
  - D. methyldopa
19. Which 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
20. Which of the following drugs is likely to enhance the effects of bradykinin?
- A. clonidine
  - B. lisinopril
  - C. losartan
  - D. propranolol

**Section B; Short answer questions: 40 marks Attempt all**

1. Name four drugs that can be used for malaria prophylaxis **(4marks)**
2. Explain the mechanism of coughing associated with angiotensin converting enzyme (ACE) inhibitors **(4marks)**
3. Name four selective COX-2 non-steroidal anti-inflammatory drugs **(4 marks)**
4. Explain the rationale of tapering the dose of corticosteroids **(4 marks)**
5. A child weighing 25 - 34 Kg aged 8 years presents with fever, chills, profuse sweating, muscle pains, joint pains, abdominal pain, diarrhoea, nausea, vomiting, irritability and refusal to feed. Lab diagnosis shows the presence of peripheral malaria parasitaemia.
  - a) Prescribe the appropriate antimalarial drug and dose according to the current Kenyan national malaria treatment guidelines. **(2 marks)**
  - b) Explain the mechanism of action of the drug you have prescribed. **(4 marks)**
6. Using specific examples give SIX drug classes that are used in the management of nausea and vomiting **(6 marks)**
7. Describe the pharmacology of any four muscle relaxants **(8 marks)**
8. Give four Inhaled corticosteroids that can be used in control of asthma **(4 marks)**

**Section C; Long Essay: ANSWER ALL: 40 marks**

1. Discuss the pharmacology of four first line anti-TB drugs and outline the current Kenyan guideline-based standard regimens for adults and children with drug-susceptible pulmonary tuberculosis (PTB) in adults. **(20 marks)**
2. Martin, a 60 years old patient who is taking losartan, lisinopril and spironolactone for hypertension as well as metformin for diabetes starts to complain bitterly of dry cough and angioedema. Identify the drug causing the dry cough and discuss its clinical pharmacology, including class, mechanisms of action, pharmacokinetics, ADR, drug interactions **(20 marks)**