

(University of Choice)

MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)

MAIN CAMPUS

UNIVERSITY EXAMINATIONS

2019/2020 ACADEMIC YEAR

SECOND TRIMESTER, FOURTH YEAR, EXAMINATION
OF

BACHELOR OF SCIENCE IN MEDICAL LABORATORY

COURSE CODE: **BML 417**

COURSE TITLE: **CLINICAL PHARMACOLOGY**

DATE: 10TH DECEMBER 2020

TIME: 2.00 -4.00PM

INSTRUCTIONS TO CANDIDATES

Answer all questions

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over 

BML 417: CLINICAL PHARMACOLOGY (Main Exam)

TIME: 2 HOURS

MULTIPLE CHOICE QUESTIONS (20 Marks)

1. Which of the following diuretics is effective in the emergency treatment of hypercalcemia?
 - a. Hydrochlorothiazide
 - b. Spironolactone
 - c. Mannitol
 - d. Frusemide
2. Why are cardiac glycosides used in the treatment of atrial fibrillation?
 - a. Because they have a positive inotropic effect
 - b. Because they have a negative inotropic effect
 - c. Because they have a negative chronotropic effect
 - d. Because they have a positive chronotropic effect
3. What aspect of a candidate drug is tested during Phase I of a clinical trial?
 - a. Efficacy against the disease of interest
 - b. Safety in human populations
 - c. Acceptability in diverse human populations
 - d. All of the above
4. Which of the following antihelminthic drugs is best suited for use in large scale schistosomiasis eradication programs?
 - a. Albendazole
 - b. Oxamniquine
 - c. Niclosamide
 - d. Praziquantel
5. Which of the following is clinically useful in epilepsy treatment?
 - a. Acetazolamide
 - b. Ouabain
 - c. Carbamazepine
 - d. Chlorpromazine
6. Which of the following is **TRUE** about the biological half-life of a drug whose metabolism occurs in accordance with first-order kinetics?
 - a. It is directly proportional to the plasma drug concentration
 - b. It is inversely proportional to the plasma drug concentration
 - c. It is independent of the plasma drug concentration
 - d. None of the above
7. Glyceryl trinitrate is routinely administered sublingually in the treatment of angina pectoris. Which of the following correctly explains the selection of this route of administration?
 - a. To avoid gastric irritation if administered directly into the gastrointestinal tract
 - b. To avoid induction of vomiting
 - c. The drug is poorly absorbed on direct administration into the gastrointestinal tract
 - d. To avoid the first pass effect
8. Which of the following antimalarials may cause hemolytic anemia in individuals susceptible to this condition?
 - a. Dihydroartemisinin
 - b. Quinine
 - c. Primaquine
 - d. Amodiaquine

9. Why is acetazolamide useful in the treatment of open- angle glaucoma?
 - a. Because it is a muscarinic receptor agonist
 - b. Because it is a β_1 - adrenergic receptor agonist
 - c. Because it enhances the focusing ability of the eye lens
 - d. Because it causes fluid drainage form the eyeball.
10. Which of the following is an opioid antagonist?
 - a. Pethidine
 - b. Codeine
 - c. Naltrexone
 - d. Meperidine
11. Which of the following is **TRUE** about amlodipine?
 - a. It is a diuretic
 - b. It is a central nervous system stimulant
 - c. It is a cardiac glycoside
 - d. It is a calcium channel blocker antihypertensive
12. What is the pharmacological classification of aminophylline?
 - a. It is an antidiabetic drug
 - b. It is an antihypertensive drug
 - c. It is a bronchodilator drug
 - d. It is a central nervous system depressant
13. Which of the following is **TRUE** about 1, 4- benzodiazepines?
 - a. They are used as anxiogenic agents
 - b. They cause skeletal muscle contraction
 - c. They are used as anticonvulsants
 - d. They are used as antipsychotic agents
14. Propranolol is a β - adrenergic receptor antagonist. Which of the following correctly describes its mode of action in the treatment of hypertension?
 - a. It is a vasodilator drug
 - b. It has a positive inotropic effect
 - c. It has a positive chronotropic effect
 - d. It has a negative chronotropic effect
15. Which of the following correctly describes the mode of action of aminoglycoside antibiotics?
 - a. They interfere with bacterial cell wall synthesis
 - b. They interfere with bacterial nucleic acid synthesis
 - c. They interfere with bacterial protein synthesis
 - d. They cause perforation within the bacterial cell membrane
16. Which of the following antimalarials is a sesquiterpene lactone?
 - a. Amodiaquine
 - b. Pyrimethamine
 - c. Lumefantrine
 - d. Dihydroartemisinin
17. Hydralazine is a hypertensive. Which of the following correctly describes its mode of action?
 - a. It reduces the rate of contraction of the heart
 - b. It inhibits aldosterone secretion
 - c. It is a vasodilator
 - d. None of the above

18. Which of the following is clinically effective in the treatment of tuberculosis?
- Gentamycin
 - Cefixime
 - Ciprofloxacin
 - Streptomycin
19. Which of the following is a common side effect of aminoglycoside antibiotics following long term use?
- Cardiotoxicity
 - Hepatotoxicity
 - Nephrotoxicity
 - Interference with body glucose metabolism
20. Which of the following benzodiazepines is non- sedating?
- Diazepam
 - Nitrazepam
 - Flunitrazepam
 - Clobazam

SECTION B: SHORT ESSAY QUESTIONS (40 Marks). Attempt **ALL** the Questions in this section.

- Briefly discuss the use and mode of action of digoxin in the treatment of congestive cardiac failure. (10 marks)
- Write short notes on the use of the following antihelminthics in the therapy of worm infestations:
 - Albendazole (5 marks)
 - Praziquantel (5 marks)
- Using specific examples, briefly discuss the use of calcium channel blockers as antihypertensives. (10 marks)
- Write short notes on the use of the following drugs in the treatment of tuberculosis:
 - Pyrazinamide (5 marks)
 - Rifampicin (5 marks)

SECTION C: LONG ESSAY QUESTIONS (40 Marks). Attempt **BOTH** Questions.

- Classify antimalarials providing at least **ONE** example of each class. (10.5 marks)
 - Using specific examples discuss the use of Artemisinin- Based Combination Therapy antimalarials (ACTs) in the treatment of a clinical malaria infection. (9.5 marks)
- Explain the main aspects covered in the four phases of a clinical trial in the process of drug development. (20 marks)