



**AMREF INTERNATIONAL UNIVERSITY  
SCHOOL OF MEDICAL SCIENCES  
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES  
KENYA REGISTERED COMMUNITY HEALTH NURSING  
END OF SEMESTER EXAMINATIONS**

**DNS 118 : PHARMACOLOGY I**

**DATE: 6<sup>TH</sup> DECEMBER 2023**

**TIME: 2 Hours**

**Start: 0900 HOURS**

**Finish: 1100 HOURS**

**INSTRUCTIONS**

- 1. This exam will be marked out of 70 Marks**
- 2. ALL Questions are compulsory.**
- 3. The Examination has Three Sections: Section A- Multiple Choice Questions, Section B: Short Answer Questions, Section C: Long Essay Questions**
- 4. Answer all Questions in the ANSWER BOOKLET provided**

**SECTION I: MULTIPLE CHOICES QUESTIONS**

**(20 MARKS)**

1. The most commonly used Benzimidazole is: -
  - a. Fluconazole
  - b. Metronidazole
  - c. Albendazole
  - d. Cotrimoxazole
2. The best route of administration of an antidote to reverse overdose medication is: -
  - a. Intramuscular
  - b. Subcutaneous
  - c. Oral
  - d. Intravenous
3. One of the following drugs has high bioavailability in CSF: -
  - a. Polar drugs
  - b. Hydrophilic drugs
  - c. Hydrophobic drugs
  - d. Slightly acidic drugs
4. A patient was given a loading dose of 2000 mg of vancomycin prescription due to methicillin-resistant S-aureus. How many doses are appropriate for this prescription?
  - a. 4 doses of 500 mg
  - b. 2 doses of 1000 mg
  - c. 1 dose of 2000 mg
  - d. 8 doses of 250 mg
5. Agonists: -
  - a. Are drugs that inhibit their receptors
  - b. Are drugs that compete with endogenous ligands.
  - c. Are drugs that stimulate receptors after binding
  - d. They suppress an activity

6. Digoxin is a drug with a narrow therapeutic window. This implies that: -
- It is potent
  - It treats a few diseases
  - It is efficacious
  - Small doses can cause toxicities
7. Glucuronidation of drugs by the liver is: -
- Example of pharmacodynamic
  - Example of pharmacokinetic
  - Increases distribution of drug
  - Increases absorption of the drug
8. The following is true about bioavailability: -
- Refers to the concentration of the drug in urine after some time.
  - Intramuscular has 100% bioavailability.
  - The first-pass effect boosts the bioavailability of oral drugs.
  - Hydrophilic drugs have poor bioavailability
9. Extended-release formulations: -
- The short action time
  - They have an enteric coating that easily dissolute.
  - They are good for delivering acid-unstable drugs such as omeprazole.
  - The enteric coating should be removed before giving it to patients
10. Drugs which undergo high degree of first pass metabolism in the liver:-
- Have oral bioavailability
  - Are excreted primarily in bile
  - Are contraindicated in liver disease
  - Are considered highly water soluble

11. The act of parliament that control of the use and trade in drugs and poisons is: -
- CAP 249
  - CAP 242
  - CAP 246
  - CAP 244
12. Pharmacovigilance is done for monitoring of: -
- Drug prices
  - Unethical practices
  - Drug safety
  - Drug stocks
13. Which of the following groups of antibiotics demonstrates a bacteriostatic effect:-
- Carbapenems
  - Macrolides
  - Aminoglycosides
  - Cephalosporins
14. One of following drugs is a third-Generation cephalosporin: -
- Ceftriaxone
  - Chloramphenicol
  - Ciprofloxacin
  - Cephalexin
15. Clavulanic acid is combined with amoxicillin because: -
- It kills bacteria that are not killed by-moxicillin
  - It reduces renal clearance of amoxicillin
  - It counteracts the side effects of amoxicillin
  - Inhibits beta lactamases that destroy Amoxicillin
16. The mode of action of doxycycline is; -
- Inhibition of bacterial cell wall synthesis
  - Inhibition of nucleic acid synthesis
  - Inhibition of protein synthesis
  - Inhibition of dihydrofolate reductase

17. The following antimalarial drugs are associated with cinchonism: -
- Chloroquine, amodiaquine
  - Artemether, artesunate
  - Quinine, quinidine
  - Halofantrine, mefloquine
18. Combined chemotherapy of tuberculosis is used to: -
- Decrease mycobacterium drug-resistance
  - Increase mycobacterium drug-resistance
  - Decrease the antimicrobial activity in the body
  - Increase the antimicrobial activity in the body
19. The following is the correct combination in co-trimoxazole: -
- Sulfapyrazone + trimethoprim
  - Sulfadiazine + trimethoprim
  - Sulphamethoxazole + trimethoprim
  - Sulfasalazine + trimethoprim
20. Benzyl penicillin is not used orally because: -
- It is destroyed by acid in stomach and absorption is incomplete
  - It is a very bitter drug and may cause severe GIT distress to most patients
  - It produces severe nausea and vomiting on oral administration
  - It corrodes the stomach and intestinal mucosa when taken orally

**SECTION B: SHORT ANSWER QUESTIONS**

**(30 MARKS)**

1. Explain the following terms.
  - a) Therapeutic index. (2 marks)
  - b) Therapeutic efficacy. (2 marks)
2. Discuss Metronidazole under the following sub-headings.
  - a) Classification. (1 mark)
  - b) Mechanism of action (2 marks)
  - c) State two (2) indication (2 marks)
3. State six (6) routes of drug administration. (6 marks)
4. Outline the history of pharmacology (6 marks)
5. Outline the four (4) main mechanisms of antibiotic drug resistance (4 marks)
6. Explain five (5) ideal qualities of a good antimicrobial. (5 marks)

**SECTION C: LONG ANSWER QUESTIONS**

**(20MARKS)**

1. Discuss cephalosporins under the following sub-headings.
  - a) Classification giving examples in each class. (5 marks)
  - b) Mechanism of action (3 marks)
  - c) State two (2) indication (2 marks)
2. Outline 5 nursing responsibilities in drug administration. (10 marks).