



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES
KENYA REGISTERED COMMUNITY HEALTH NURSING
END OF SEMESTER EXAMINATIONS APRIL 2023**

DNS 118: PHARMACOLOGY I

DATE: WEDNESDAY 5TH APRIL 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 I- Multiple Choice Questions, Section II: Short Answer Questions, Section III: Long Essay Questions**
- 4. Answer all Questions in the ANSWER BOOKLET provided**
- 5. Do Not write anything on the question paper -use the back of your booklet for rough work if need be.**

SECTION I: MULTIPLE CHOICE QUESTIONS (20 MARKS)

1. The ability of a microbe to produce disease when present in minute numbers is: -
 - A. Virulence
 - B. Etiology
 - C. Pathogenicity
 - D. Invasiveness

2. The ability of a pathogen to grow extremely rapidly and cause direct damage to surrounding tissues is : -
 - A. Affinity
 - B. Pathogenicity
 - C. Synergism
 - D. Pharmacognosy

3. Pharmacokinetics is: -
 - A. The study of biological and therapeutic effects of drugs
 - B. The study of absorption, distribution, metabolism and excretion of drugs
 - C. the study of mechanism of drug action
 - D. the study of methods of new drug development

4. Pharmacokinetics include: -
 - A. Chemical structure of a medicinal agent
 - B. Unwanted effects of drugs
 - C. Distribution of drugs in the organism
 - D. Pharmacological effects of drugs

5. The main mechanism of most drug absorption in the gastrointestinal tract is: -
 - A. Active transport
 - B. Filtration
 - C. Endocytosis and exocytosis
 - D. Passive Diffusion

6. Bioavailability means: -
 - A. Amount of substance in urine relative to the initial dose
 - B. Permeability through the blood-brain barrier
 - C. Fraction of unchanged drug reaching the systemic circulation following administration
 - D. Plasma protein binding degree of a substance

7. First-pass effect is most likely in: -
- A. Sublingual administration
 - B. Intramuscular administration
 - C. Oral administration
 - D. Intravenous administration
8. Biotransformation of drugs is to render them: -
- A. More lipid soluble
 - B. More pharmacologically active
 - C. Less ionized
 - D. Less lipid soluble
9. Half-life is the time required to: -
- A. Bind to half of an introduced drug to plasma proteins
 - B. Absorb half of an introduced drug
 - C. Change the amount of a drug in plasma by half during elimination
 - D. Metabolize half of an introduced drug into the active metabolite
10. Target Proteins onto which a drug molecule binds are: -
- A. Receptors
 - B. Anions
 - C. Cations
 - D. Desmosomes
11. Idiosyncratic reaction of a drug is: -
- A. A predictable exogenous, quantitatively exaggerated response
 - B. A type of drug antagonism
 - C. Unpredictable, inherent, qualitatively abnormal reaction to a drug
 - D. A type of drug antagonism
12. One following is a Second line anti-tuberculous agent: -
- A. Isoniazid
 - B. Streptomycin
 - C. Pyrazinamide
 - D. Ethambutol
13. The following drug is used to treat dermatomycosis:-
- A. Vancomycin
 - B. Amphotericin- B
 - C. Nystatin
 - D. Griseofulvin

14. Two common side effects of doxycycline are: -
- A. Nausea and Shortness of breath
 - B. Diarrhea and photosensitivity
 - C. Photosensitivity and dizziness
 - D. Muscle cramps
15. The following drug inhibits bacterial protein synthesis: -
- A. Macrolides
 - B. Quinolones
 - C. Sulfonamides
 - D. Nitroimidazoles
16. The benefit of adding clavulanic acid to amoxicillin is that it: -
- A. Is a beta-lactam inhibitor
 - B. Is a beta-lactamase inhibitor
 - C. Is bacteriostatic
 - D. Minimizes the first pass effect
17. Ceftriaxone is: -
- A. A second generation cephalosporin
 - B. Effective for management of Central nervous system infections
 - C. Administered every six hours in severe infections
 - D. Effective for management of viral encephalitis
18. The drug of choice for complicated malaria is: -
- A. Chloramphenicol
 - B. Artemether Lumefantrine
 - C. Quinine Sulphate
 - D. Doxycycline

19. Calculate the volume of drug to be given per dose in a prescription of Augmentin 500 mg P.O 12 hourly. The available formulation is: 125mg/5mls: -
- A. 10mls
 - B. 20mls
 - C. 15mls
 - D. 5mls
20. Calculate the volume of drug to be given per dose in a prescription of Oxacillin 250mg IM 6 hourly (Available formulation: 500mg, Diluent 2.7mls to make 500mg/3mls).
- A. 2.7mls
 - B. 1.5mls
 - C. 3mls
 - D. 1.7mls

SECTION II: SHORT ANSWER QUESTIONS (30 MARKS)

1. Outline the two (2) types of drug dependence. (2 Marks)
2. State six (6) factors that influence drug administration (6 Marks)
3. List eight (8) routes of drug excretion (4 Marks)
4. State the five (5) common causes of medication errors. (5 Marks)
5. Discuss Ceftriaxone under the following topics
 - a. Classification (1 Mark)
 - b. Mode of Action (2 Mark)
 - c. State two (3) indications (2 Marks)
6. Outline four (4) mechanisms of antimicrobial resistance (8 Marks)

SECTION C: LONG ANSWER QUESTIONS (20 MARKS)

1. Describe three (3) nursing responsibilities in drug administration. (6 Marks)
2. Classify the various Anti-retroviral agents used in the management of Human Immunodeficiency Virus (HIV) infection giving an example of an agent in each class (14 Marks)