



**AMREF INTERNATIONAL UNIVERSITY
SCHOOL OF MEDICAL SCIENCES
DEPARTMENT OF NURSING & MIDWIFERY SCIENCES
END OF SEMESTER AUGUST 2024 EXAMINATIONS**

COURSE CODE AND TITLE: BSN 222 PHARMACOLOGY

DATE: Tuesday 13th August 2024

Duration: 2 HOURS

INSTRUCTIONS

1. This exam is out of 100 marks
2. This Examination comprises THREE Sections. Section I: Multiple Choice Questions (20 marks) Section II: Short Answer Questions (40 marks) and Section III: Long Answer Questions (40 marks)
3. Answer ALL Questions.
4. 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. 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 mechanisms of drug action
 - D. The study of methods of new drug development
2. The term “bioavailability” means: -
 - A. Plasma protein binding degree of substance
 - B. Permeability through the brain-blood barrier
 - C. Fraction of an uncharged drug reaching the systemic circulation following any route administration
 - D. Amount of a substance in urine relative to the initial doze
3. The main mechanism of most drugs absorption in the Gastrointestinal tract is: -
 - A. Active transport (carrier-mediated diffusion)
 - B. Filtration (aqueous diffusion)
 - C. Endocytosis and exocytosis
 - D. Passive diffusion (lipid diffusion)
4. The appropriate alimentary route of administration when passage of drugs through liver is minimized is: -
 - A. Oral
 - B. Transdermal
 - C. Rectal
 - D. Intra-duodenal
5. The route of drug administration most likely to lead to the first-pass effect is: -
 - A. Sublingual
 - B. Oral
 - C. Intravenous
 - D. Intramuscular
6. An agonist is a substance that: -
 - A. Interacts with the receptor without producing any effect
 - B. Interacts with the receptor and initiates changes in cell function, producing various effects
 - C. Increases concentration of another substance to produce effect
 - D. Interacts with plasma proteins and doesn't produce any effect
7. The component of a cell that accepts and interacts with a drug molecule is called: -
 - A. Ion channel
 - B. Enzyme
 - C. Protein
 - D. Receptor

8. A drug with a high first pass effect: -
- A. Amiodarone
 - B. Phenytoin
 - C. Verapamil
 - D. Disopyramid
9. Not metabolized in the liver: -
- A. Cimetidine
 - B. Phenytoin
 - C. Diazepam
 - D. Penicillin G
10. Alcohol should not be taken with: -
- A. Sulphonamides
 - B. Clonidine
 - C. Reserpine
 - D. Metronidazole
11. Drugs mostly cross biological membranes by: -
- A. Passive diffusion
 - B. Active diffusion
 - C. Active transport
 - D. Osmosis
12. The following cross placenta EXCEPT: -
- A. Warfarin
 - B. Heparin
 - C. Phenindione
 - D. Morphine
13. Drug which crosses the placental barrier is: -
- A. Phenytoin
 - B. Diazepam
 - C. Corticosteroids
 - D. All of the above
14. An antiepileptic drug that does not act as GABA agonist is: -
- A. Phenytoin
 - B. Sodium valproate
 - C. Diazepam
 - D. Phenobarbitone

15. The following is not an antidepressant: -
- A. Amitriptyline
 - B. Fluoxetine
 - C. Trazodone
 - D. Pimozide
16. B-Blockers are contra indicated in: -
- A. Hypertension
 - B. Congestive cardiac failure
 - C. Anxiety states
 - D. Hyperthyroidism
17. The following drug increases GABA levels in brain: -
- A. Diazepam
 - B. Phenobarbitone
 - C. Sodium valproate
 - D. Carbamazepine
18. The following is a second generation cephalosporin: -
- A. Cephradine.
 - B. Cefoperazone
 - C. Cefotaxime
 - D. Cefoxitine
19. The following are cell cycle non-specific anticancer agents EXCEPT: -
- A. Nitrosurea.
 - B. Cisplatinum.
 - C. Cyclophosphamide
 - D. Bleomycin
20. The following drug is safe during pregnancy: -
- A. Demecocycline
 - B. Ofloxacin
 - C. Isoniazid
 - D. Amikacine.

SECTION II: SHORT ANSWER QUESTIONS**(40 MARKS)**

1. Explain the mechanism of action of paracetamol (4 Marks)
2. Outline FIVE (5) considerations when administering diuretics (5 Marks)
3. Outline any FIVE (5) considerations when administering Anti-TBs agents (5 Marks)
4. Discuss the mechanism of action of Nifedipine in management of hypertension (4 Marks)
5. Outline FOUR (4) side effects of fluoxetine (4 Marks)
6. Explain the mechanism of action of diazepam. (4 Marks)
7. Outline the mechanism of action of pantoprazole (5 Marks)
8. Explain three side effects of Atrovastatin administration (4 Marks)
9. State FOUR (4) effects of insulin administration (5 Marks)

SECTION III: LONG ANSWER QUESTIONS**(40 MARKS)**

- 10 Classify and explain mode of action of anticonvulsant drugs (12 marks)
- 11 Describe the mechanism of action of the following anticancer drugs (12 marks)
 - a. Alkylating agents
 - b. Platinum coordinating complexes
 - c. Antimetabolites
 - d. Microtubule damaging elements
- 12 Estrogen is a common therapy given to patients
 - a. State THREE (3) clinical uses of estrogen (6 Marks)
 - b. Describe THREE (3) adverse effects of estrogen (6 Marks)
 - c. List FOUR (4) contraindications of estrogen (4 Marks)