



(University of Choice)

**MASINDE MULIRO UNIVERSITY OF  
SCIENCE AND TECHNOLOGY**

**(MMUST)**

**MAIN CAMPUS AND KAKUMA CAMPUS**

**UNIVERSITY EXAMINATIONS**

**MAIN EXAM**

**2023/2024 ACADEMIC YEAR**

**SECOND YEAR FIRST SEMESTER EXAMINATION**

**FOR THE DEGREE OF BACHELORS OF SCIENCE IN NUTRITION AND DIETETICS**

**COURSE CODE: HND 206**

**COURSE TITLE: BASIC PHARMACOLOGY AND TOXICOLOGY.**

**DATE: MON. 11<sup>TH</sup> DEC. 2023**

**TIME: 03:00 PM – 05:00 PM (2Hrs)**

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**INSTRUCTIONS TO CANDIDATES:**

**Answer ALL questions in Section A and section B then Two questions in Section C.**

**TIME: 2 Hours**

**MMUST observes ZERO tolerance on examination cheating**

**Exam Consists of 4 Printed Pages. Please Turn Over**





## **SECTION A: Multiple Choice Questions (20 Marks):**

1. The broad categories of drugs include
  - a. Addictive drugs only.
  - b. Pharmaceutical drugs only.
  - c. Industrial drugs.
  - d. Addictive and pharmaceutical drugs
2. What does the term “bioavailability” mean?
  - 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 of administration.
  - d. Amount of a substance in urine relative to the initial doze
3. The study of drug properties, composition, and medical applications is called
  - a. Botany
  - b. Pharmacology
  - c. Paleontology
  - d. Ecology
4. 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
5. The drugs that are used to diagnose, cure and prevent the disease are called
  - a. Pharmaceutical drugs
  - b. Addictive drugs
  - c. Industrial drugs
  - d. Single cell drugs
6. Pick out the appropriate alimentary route of administration when passage of drugs through liver is minimized:
  - a. Oral
  - b. Transdermal
  - c. Rectal
  - d. Intraduodenal
7. Half-life ( $t_{1/2}$ ) is the time required to:
  - a. Change the amount of a drug in plasma by half during elimination
  - b. Metabolize a half of an introduced drug into the active metabolite
  - c. Absorb a half of an introduced drug
  - d. Bind a half of an introduced drug to plasma proteins
8. Pharmacodynamics involves the study of following EXCEPT:
  - a. Biological and therapeutic effects of drugs
  - b. Absorption and distribution of drugs
  - c. Mechanisms of drug action



- d. Drug interactions
9. The substance which alters the functions of the body by absorbing into the body of a living organism is called
- a. Compound
  - b. Vitamin
  - c. Drug
  - d. Mineral
10. What does “affinity” mean?
- a. A measure of how tightly a drug bind to plasma proteins
  - b. A measure of how tightly a drug bind to a receptor
  - c. A measure of inhibiting potency of a drug
  - d. A measure of bioavailability of a drug
11. Toxicity of nicotine containing products:
- a. May result in neuromuscular blockade best treated with atropine
  - b. Usually causes hypotension
  - c. Will have no effects on the foetus
  - d. Can be symptomatically controlled with benzodiazepines
12. Therapeutic dose is not related to:
- a. Patient’s age
  - b. Route of administration
  - c. Desired therapeutic effect
  - d. Treatment costs
13. The duration of therapeutic effect depends on:
- a. Route of administration.
  - b. Frequency of administration.
  - c. Amount of the drug.
  - d. Elimination route
14. Moderate aspirin toxicity can be managed by promoting its excretion when infused with:
- a. Ascorbic acid
  - b. Acid citrate
  - c. Sodium bicarbonate
  - d. Sodium chloride

**True or False questions:**

15. Drug resistance is a term used to describe the loss of effectiveness of antimicrobial or anti-tumour drugs [TRUE/FALSE].
16. Drugs that mimic neurotransmitters are called antagonists. [TRUE/FALSE].
17. Drugs are mainly excreted in the kidney but may also be excreted in the lungs, saliva and faeces. [TRUE/FALSE].
18. Cytochrome P450 is the enzyme system responsible for metabolism of most drugs. [TRUE/FALSE].
19. When two drugs act synergistically, their combined effect is equal to the sum of each drug taken alone. [TRUE/FALSE].



20. Most drugs are absorbed in the small intestines. [TRUE/FALSE].

**Section B: Short Answer Questions (20 Marks)**

21. Expand the following drug dosage abbreviations. (3 marks).
- p.o.
  - q.h.s.
  - p.r.n.
22. Explain the difference between controlled and non-controlled drugs (2 marks).
23. Outline four (4) details commonly found in a prescription sheet (4 marks).
24. Describe various approaches used to determine drug nomenclature (6 marks)
25. Name any three sites of drug action. (3 marks).
26. State two advantages of administering drugs via parenteral route (2 marks).

**Section C: Answer any Two (2) questions from this section (30 Marks):**

27. Describe five ways of classifying drugs (15 marks).
28. Explain the processes involved in drug development? (15 marks).
29. Outline factors six (6) affecting drug absorption and bioavailability (15 marks).

