



**MERU UNIVERSITY  
OF SCIENCE & TECHNOLOGY**

P.O Box, 972-60200 Meru-Kenya

**Phone:** +254 712524293, 254 725330826, +254 705790660, +254 2092048, +254  
706364687 +254 6430320

**Email:** [info@must.ac.ke](mailto:info@must.ac.ke) **Website:** [www.must.ac.ke](http://www.must.ac.ke)

---

**DEPARTMENT: NURSING**

**PROGRAMME: BSc. NURSING**

**COURSE CODE: NNU 3131**

**COURSE TITLE: CLINICAL PHARMACOLOGY I**

**TIME: 3 HOURS**

**Y1S3 APRIL 2023**

**INSTRUCTIONS:**

The exam consists of 3 sections

**PART I: Multiple Choice Questions (20mks)**

**PART II: Short Answer Questions (40mks)**

**PART III: Long Answer Questions (40mks)**

All questions are compulsory.

**PART I:**

**Multiple Choice Questions (20mks)**

**1. Which of the following is not a factor underlying irrational drug use:**

- A. Non-availability of required drugs
- B. Misleading claims about a drug
- C. Well informed prescriber
- D. Inability to communicate problems

**2. The following is an advantage of systemic drug administration by suppositories EXCEPT?**

- A. Avoidance of first pass effect
- B. Self-medication is easy
- C. No systemic side effects.
- D. Rapid onset of action

**3. In prevention of adverse effects to drugs the following is true:**

- A. Avoid all inappropriate use of drugs.
- B. Take into consideration previous history of drug reactions.
- C. Rule out possibility of drug interactions when more than one drug is prescribed.
- D. All of the above

**4. The following are strategies to improve on rational use of drugs EXCEPT**

- A. Educational
- B. Recreational
- C. Managerial
- D. Economic

**5. Which of the following statements describe pharmacogenetics.**

- A. Harmful effect of drug on genetic material
- B. Clinically significant hereditary variation of drug response
- C. The study of the role of the genome in drug response. Its name reflects its combining of pharmacology and genomics
- D. B&C above

**6. What type of drug interaction occurs when two drugs that produce the same effect are given together?**

- A. Additive effect
- B. Potentiation
- C. Increased absorption
- D. Decreased effect

**7. Which of the following is not a channel of drug excretion?**

- A. Urine
- B. Hormones
- C. Faeces
- D. Sweat

**8. Factors taken into account when the dose for a child is calculated from adult dose include the following EXCEPT?**

- A. Body weight
- B. Age
- C. Surface area
- D. Body Mass Index

**9. Which route of drug administration is most likely to lead to the first-pass effect?**

- A. Sublingual
- B. Oral
- C. Intravenous
- D. Intramuscular

**10. 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

**11. What does “affinity” mean?**

- A. A measure of how tightly a drug binds to plasma proteins
- B. A measure of how tightly a drug binds to a receptor
- C. A measure of inhibiting potency of a drug
- D. A measure of bioavailability of a drug

**12. Which of the following is a factor governing choice of route of drug administration?**

- A. Site of desired action
- B. Rate and extent of absorption of the drug from different routes.
- C. Condition of the patient.
- D. None of the above

**13. Which of the following drug type is not derived from a plant source?**

- A. Alkaloids
- B. Gums and resins
- C. Glycosides
- D. Antitoxins & Sera

**14. Legislation of drugs is vital to control and regulate the?**

- A. Production
- B. Distribution
- C. Prescription
- D. All of the Above

**15. Identify the true statement regarding intravenous route;**

- A. Self - medication is easy
- B. Very safe when injected at a very fast rate.
- C. Suspensions of drugs can be injected safely
- D. It avoids gastric inactivation by gastric juice

**16. Which of following statements about drug displacement and show which is true**

- A. Unbound fraction of drug has no biological effect
- B. Displacement causes drug interaction
- C. Plasma protein binding (PPB) does not affects affect bioavailability
- D. Unbound fraction of drug has the most biological effect

**17. Which of following is a drug storage practice?**

- A. Quality maintenance
- B. Assured security
- C. Right disposal

D. Storage in a cool dry place

**18. The following is not a condition to consider for drug storage:**

- A. Temperature
- B. Lighting
- C. Ventilation and humidity
- D. Level of Noise

**19. Which of the following is not an impact of irrational prescribing?**

- A. Reduced adverse drug effects
- B. Prolongation of hospitalization; loss of man days
- C. Increased morbidity and mortality
- D. Emergence of microbial resistance
- E. Appropriate and economically effective use of pharmaceuticals

**20. The main mechanism of most drugs absorption in gastrointestinal tract is?**

- A. Active transport (carrier-mediated diffusion)
- B. Filtration (aqueous diffusion)
- C. Endocytosis and exocytosis
- D. Passive diffusion (lipid diffusion)

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

1. Differentiate between a drug's Mechanism of Action and Mode of Action (4mks)
2. Highlight two methods of enhancing medication safety (4mks)
3. Describe four effects of potential drug interactions (4mks)
4. Outline three key properties of an ideal drug (3mks)
5. Drugs have a specific kind of nomenclature, Explain the three names that a drug can go by. (3mks)
6. Outline four major macromolecular targets of drug action. (4mks)
7. Identify the factors influencing drug interactions. (5mks)
8. Outline the sequential stages of drug development. (5mks)

8. a) Describe the five drug pregnancy risk categories. (5mks)
- b) Record three reasons why identification of teratogens is very difficult. (3mks)

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

1. A. Define what rational drug use is. (2mks)  
  
B. Discuss the impact of inappropriate use of drugs (8mks)
- 2). Explain the aspects of drug therapy that are applications of pharmacology in patient care that a nurse should be aware of. (10mks)
3. Discuss the concept of the essential medicines list according to the W.H.O (10mks)
4. Explain ten steps that a nurse can employ to minimise prescription and medication errors (10mks)