



**MASINDE MULIRO UNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

FIRST YEAR EXAMINATIONS

(DIRECT ENTRY)

FOR THE DEGREE

OF

BACHELOR OF SCIENCE IN NURSING

COURSE CODE: NCN 125

COURSE TITLE: CLINICAL PHARMACOLOGY & THERAPEUTICS 1

DATE: 12TH APRIL, 2023

TIME: 3PM -6PM

INSTRUCTIONS TO CANDIDATES

ANSWER ALL QUESTIONS

TIME:

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 5 Printed Pages. Please Turn Over. ▶

NCN 125 CLINICAL PHARMACOLOGY & THERAPEUTICS

SECTION A MULTIPLE CHOICE QUESTION 20 MARKS**CHOOSE THE CORRECT ANSWER. ANSWER ALL QUESTIONS.**

1. During drug plasma protein binding basic drugs will get bound to which one of the following?
 - A. Alpha 1 acid glycoprotein
 - B. Albumin
 - C. Both A and B
 - D. None of the above
2. Disintegration and dissolution are the rate limiting steps for drugs that are administered through which route of administration?
 - A. Intravenous
 - B. Subcutaneous
 - C. Oral
 - D. Inhalation
3. Which one of the following statements is true concerning sublingual route of drug administration?
 - A. Slow absorption
 - B. By-passes first pass effect
 - C. Vasoconstrictor reduce drug absorption
 - D. None of the above
4. Which one of the following is an example of a drug that works through enzymatic mechanism of action?
 - A. Activated charcoal
 - B. Antacids
 - C. Penicillins
 - D. All of the above
5. Pharmacokinetics includes all the following processes except which one?
 - A. Absorption
 - B. Mechanism of action
 - C. Distribution
 - D. Metabolism
6. All the following drugs are obtained from plant sources except which one?
 - A. Digoxin
 - B. Senna
 - C. Artemether
 - D. Pethidine
7. Generic name is also known as?
 - A. Brand name
 - B. Non-proprietary name
 - C. Proprietary name
 - D. Chemical name
8. Which one of the following is not an advantage of oral route of drug administration?
 - A. Safer
 - B. Convenient
 - C. Does not need assistance
 - D. Invasive
9. Bioavailability assumes practical significance for drugs with which one of the following?
 - A. Narrow safety margin

- B. Wide therapeutic window
 - C. Drugs that do not require precise dosage control
 - D. None of the above.
10. All the following factors influence drug distribution into the brain, except which one?
- A. Blood brain barrier
 - B. Lipid solubility
 - C. Route of drug administration
 - D. Meningitis
11. Which one of the following is an example of a drug that can induce its own metabolism?
- A. Rifampicin
 - B. Penicillins
 - C. Senna
 - D. Insulin
12. Volatile liquids are mainly eliminated through which organ?
- A. Kidneys
 - B. Lungs
 - C. Skin
 - D. Liver
13. Which one of the following is not a principle of drug action?
- A. Replacement
 - B. Cytotoxic
 - C. Tolerance
 - D. Depression
14. Which one of the following does not work through non-specific enzyme inhibition?
- A. Acids
 - B. Alkali
 - C. Phenol
 - D. Sulfonamides
15. Cross tolerance may occur while taking which group of drugs?
- A. Pharmacologically related drugs
 - B. Chemical related drugs
 - C. Therapeutically related drugs
 - D. Any drug taken
16. According to the FDA pregnancy category chart; which is the most unsafe drug category to give during pregnancy?
- A. A
 - B. B
 - C. C
 - D. X
17. Allocate the following description of a drug to the FDA pregnancy category chart. Studies, adequate well-controlled or observational in pregnant women have demonstrated a risk to the foetus. However, the benefits of therapy may outweigh the potential risk.
- A. A
 - B. B
 - C. C
 - D. D
18. Which one of the following is not an example of a drug that can be eliminated through the skin?
- A. Lithium,
 - B. potassium iodide,
 - C. rifampicin

D. Amoxicillin

19. Where will a great proportion of acidic drug be absorbed from after oral administration?

- A. Stomach
- B. Small intestines
- C. Colon
- D. Both A and B

20. In a symport transport system:

- A. Solutes move in the same direction
- B. Solutes move in the opposite direction
- C. Solutes do not move
- D. None of the above

SECTION B SHORT ANSWER QUESTIONS 40 MARKS
ANSWER ALL QUESTIONS

1. Write short notes on cytochrome P450 enzymes and their importance. (5 marks)
2. Explain briefly any 5 factors that affect drug absorption from oral route of administration. (5 marks)
3. Briefly describe any 5 factors to consider when selecting drug dose to administer in a patient. (5 marks)
4. Describe the clinical importance of bioavailability in clinical pharmacology. (5 marks)
5. Outline the importance of pharmacogenetics in clinical pharmacology. (5 marks)
6. Describe any 2 formulas used in dose calculation in adults (5 marks)
7. List various sources of drugs with relevant examples. (5 marks)
8. List any 5 factors that cause variation in response to pharmacological action of a drug. (5 marks)

SECTION C ESSAY QUESTIONS 40 MARKS
ANSWER ALL QUESTIONS

1. Describe in detail the mechanisms of drug action with relevant examples (20 marks)
2. Discuss in detail the various drug discovery and development stages before a new drug is available for clinical use (20 marks).