



(University of Choice)

**MASINDEMULIROUNIVERSITY OF
SCIENCE AND TECHNOLOGY
(MMUST)**

THIRD YEAR, FIRST TRIMESTER UNIVERSITY EXAMINATIONS

2023/2024 ACADEMIC YEAR

BACHELOR OF SCIENCE IN GLOBAL HEALTH

COURSE CODE: NCO 221

COURSE TITLE: CLINICAL PHARMACOLOGY AND THERAPEUTICS

DATE: Tuesday 9th April 2024

TIME 11:00 – 1:00Pm

INSTRUCTIONS TO CANDIDATES

All questions are compulsory

Time duration 2 hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

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NCO 221: Clinical Pharmacology and Therapeutic

SECTION A: MULTIPLE CHOICE QUESTIONS

20 Marks

1. The study of natural drugs is known as:
 - A. Pharmacy
 - B. Posology
 - C. Pharmacognosy(T)
 - D. Pharmacodynamic
 - E. Pharmacokinetics.
2. Drugs synthesized in the body are known as:
 - A. Hormones .(T)
 - B. Xenobiotics
 - C. Prototype drugs
 - D. Toxins
 - E. Prodrugs.
3. The compound after administration, must undergo chemical conversion by metabolism process to become an active pharmacological agent is known as?
 - A. Crude drug.
 - B. Prototype drug.
 - C. Prodrug.(T)
 - D. Placebo drug.
 - E. Synthetic drug.
4. A drug become biological active after administration in the body is called:
 - A. Prodrug. (T)
 - B. Prototype drug
 - C. Crude drug
 - D. Placebo drug
 - E. Xenobiotic
5. Which of the following is necessary for the absorption of vitamin B-12?
 - A. Vitamin C
 - B. Vitamin A
 - C. Intrinsic factor (T)
 - D. Vitamin K
 - E. Thiamine
6. The branch of pharmacology, which deals with the time course for absorption, distribution, Localization, metabolism and elimination of drug is called?
 - A. Pharmacy.
 - B. Pharmacodynamics.
 - C. Pharmacogenetics.
 - D. Pharmacotherapeutics.
 - E. Pharmacokinetics.
7. Maximum bioavailability is seen in the case of:
 - A. Oral route

- B. Sub –lingual route
 - C. Rectal route
 - D. Intravenous route (T)
 - E. Topical.
- 8. All of the following may be disadvantages of intramuscular route, except**
- A. Skilled staff is required
 - B. Some drugs may cause irritation of skeletal muscles
 - C. Effect of drug is produced in 10-30 minutes
 - D. Only a limited amount of drug can be given by this route
 - E. Rate of absorption is rapid than subcutaneous route. (T)
- 9. Regarding sublingual route:**
- A. Drugs are taken in mouth and swallowed
 - B. It is most commonly used route of administration
 - C. It does not require cooperation of patient
 - D. By this route first-pass effect does not occur.(T)
 - E. Effect produced by the drug is slow.
- 10. Which factor dose not influences bioavailability?**
- A. First pass hepatic metabolism.
 - B. Solubility of the drug.
 - C. Routes of drug administration.
 - D. Chemical instability.
 - E. Plasma Half-life.(T)
- 11. The reversible movement of drugs from blood circulation to the tissues is called Drug:**
- A. Absorption.
 - B. Biotransformation.
 - C. Distribution.(T)
 - D. Excretion.
 - E. Redistribution.
- 12. A Gynecologist administered 1 gram of a drug to a lady patient. The apparent volume of distribution for this drug was 100 liters. What would be plasma concentration to that drug?**
- A. 10 mg/ liter.(T)
 - B. 100 mg/ liter.
 - C. 300 mg/ liter.
 - D. 500 mg/ liter
- 11. The distribution of drug is not affected by:**
- A. Blood perfusion.
 - B. Tissue binding.
 - C. Permeability of cell membrane.
 - D. Form of drug.(T)
- 12. Mostly the drug binding occur with:**

- A. Blood cells.
- B. Tissue proteins.
- C. Tissue mucopolysaccharides.
- D. Blood protein.(T)

14. First-pass elimination means!

- A. First time use of any drug
- B. First effect of drug on receptor site
- C. First fraction of drug crosses the cell membrane.
- D. Loss of drug by metabolism before reaches systemic circulation (T)

18. Which pair of organ has major role in clearance of drug?

- A. Liver and lung.
- B. Liver and skin.
- C. Liver and kidney.(T)
- D. Lung and kidney.

17. Drug that bind to physiological receptors and their effects mimic the regulatory effects of the endogenous signaling compounds are called:

- A. Agonist. (T)
- B. Antagonist.
- C. Irreversible antagonist.
- D. Partial agonist.

18. Local anesthetics produce:

- A. Analgesia, amnesia, loss of consciousness
- B. Blocking pain sensation without loss of consciousness
- C. Alleviation of anxiety and pain with an altered level of consciousness
- D. A stupor or somnolent state

19. Drugs which are used to increase the urine output are-

- A. Antihypertensive
- B. Diuretics
- C. Anti-diuretic hormone
- D. None of the above

21. Drugs which dilate the blood vessels and used to lower blood pressure-

- A. Vasodilators
- B. Vasoconstrictor
- C. Mydriatics
- D. Myotics

SECTION B: SHORT ANSWER QUESTIONS

40 MARKS

1. Explain **five** route of drug administration
2. Outline **five** principles of a drug administration

5marks

5 marks

3. Explain five advantages of administering to a hospitalized patient 5 marks
4. State **five** health messages that you would give to a patient receiving antibiotics (5 marks)
5. Explain **five** elements of treatment sheet 5 marks
6. Name **five** drugs that are community abused by Kenyans 5 marks
7. Outline **five** factors to consider while administering drugs to children 5 marks
8. Explain **five** roles of a health care work regarding drug management in the Community 5 marks

Section C: Long Essay Questions

(40 Marks)

Questline One

Primary health care works are mandated to management clients/patients in various aspects. Regarding pharmacological mismanagement.

- a) Describe five disadvantages of using fixed dose combinations treatment to patients diagnosed with Tuberculosis (10 Marks).
- b) Explain the different impacts of irrational prescribing (10 Marks).

Questline Two

Hypertension is listed among top ten disease in the world that affect the olde person.

- c) Discuss three types of antihypertensive drugs, by identifying one drug and its mode of action (10 Marks)
- d) Describe five factors modifying drug action that influence antihypertensive drugs (10 Marks).

