



(University of Choice)

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

MAIN CAMPUS

SCHOOL OF NURSING MIDWIFERY AND PARAMEDICAL SCIENCES

**UNIVERSITY EXAMINATIONS
2021/2022 ACADEMIC YEAR**

**FOR THE DEGREE OF BACHELOR OF SCIENCE IN
PARAMEDIC SCIENCE**

COURSE CODE: NPP 125 (MAIN PAPER)

COURSE TITLE: INTRODUCTION TO PARAMEDIC PHARMACOLOGY

DATE: 21/04/2022

TIME: 3:00PM- 6:00 PM.

INSTRUCTIONS TO CANDIDATES

All Questions in section (A, B and C) are Compulsory

DURATION: 3 HOURS

MMUST observes ZERO tolerance to examination cheating

SECTION A – MULTIPLE CHOICE QUESTIONS (20 MARKS)

Choose the correct answer in this section.

1. What is the effect of adrenalin?
 - A) Increase heart rate
 - B) Vasoconstriction
 - C) Vasodilation
 - D) Both (a) and (b)
2. The medicine given during an acute anaphylactic reaction is?
 - A) Atropine
 - B) Aminophylline
 - C) Dyphylline
 - D) Adrenalin
3. The antidote for heparin is?
 - A) Vitamin -K
 - B) Protamine sulphate
 - C) Aminocaproic acid
 - D) Amikacin
4. Which of the following is used as an antidote for organ phosphorus poisoning?
 - A) Atropine
 - B) Avil
 - C) Adrenaline
 - D) Amiodarone
5. Medication used for nausea and vomiting is known as?
 - A) Analgesics
 - B) Antiemetics
 - C) Antibiotics
 - D) Antipyretics
6. A severe allergic reaction to a drug is known as?
 - A) Anaphylactic
 - B) Interaction
 - C) Toxicity
 - D) Adverse
7. Which of the following listed drug is a proton pump inhibitor?
 - A) Pantoprazole
 - B) Sucralfate
 - C) Ranitidine
 - D) Famotidine
8. Calcium channel blocking agents of use in the treatment of hypertension include?
 - A) Prazosin

- B) Lidoflazin
 - C) Captopril
 - D) Nifedipine
9. The drug used for treatment for tuberculosis?
- A) Amoxicillin
 - B) Rifampicin
 - C) Chloramphenicol
 - D) Ciprofloxacin
10. 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
11. The main mechanism of most drugs absorption in GI tract is:
- A) Active transport (carrier-mediated diffusion)
 - B) Filtration (aqueous diffusion)
 - C) Endocytosis and exocytosis
 - D) Passive diffusion (lipid diffusion)
12. What is implied by «active transport»?
- A) Transport of drugs through a membrane by means of diffusion
 - B) Transport without energy consumption
 - C) Engulf of drug by a cell membrane with a new vesicle formation
 - D) Transport against concentration gradient
13. 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 administration
 - D) Amount of a substance in urine relative to the initial doze
14. What is characteristic of the oral route?
- A) Fast onset of effect
 - B) Absorption depends on GI tract secretion and motor function
 - C) A drug reaches the blood passing the liver
 - D) The sterilization of medicinal forms is obligatory
15. The term “biotransformation” includes the following:
- A) Accumulation of substances in a fat tissue
 - B) Binding of substances with plasma proteins
 - C) Accumulation of substances in a tissue
 - D) Process of physicochemical and biochemical alteration of a drug in the body

16. 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
17. 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
18. If an agonist can produce maximal effects and has high efficacy it's called:
- A) Partial agonist
 - B) Antagonist
 - C) Agonist-antagonist
 - D) Full agonist
19. Irreversible interaction of an antagonist with a receptor is due to:
- A) Ionic bonds
 - B) Hydrogen bonds
 - C) Covalent bonds
 - D) All of the above
20. What term is used to describe a more gradual decrease in responsiveness to a drug, taking days or weeks to develop?
- A) Refractoriness
 - B) Cumulative effect
 - C) Tolerance
 - D) Tachyphylaxis

SECTION B. SHORT ANSWER QUESTIONS. (40marks)

Answer all questions

1. (a) Define the term pharmacology (2mks)
(b) Name six sources where drugs can be obtained with example (6mks)
2. (a) briefly define the term drug absorption (2mks)
(b) explain any three routes of drug administration (6 mks).
3. (a) list four types of medications used in management of bronchial asthma (4mks)
(b) Mention four classes of antibiotics (4mks)
4. (a) what's bioavailability? (2mks)
(b) Name factors affecting drug absorption and bioavailability (6mks)
5. Discuss the indications of Adrenaline (8mks)

SECTION C. LONG ANSWER QUESTIONS (40 marks)

Answer all questions

- 1(a) what do you understand by the term pharmacokinetics? (2mks)
(b) Differentiate between pharmacokinetics and pharmacodynamics (4mks)
(c) Describe the pharmacokinetics process in pharmacology (14mks)
- 2(a) Discuss any four different groups of antihypertensive drugs used in management of hypertension. (10mks)
(b) Which is the main neurotransmitter in the parasympathetic nervous system? (2mks)
(c) Elaborate the systematic management of organophosphate poisoning management (8mks)