



(University of Choice)

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

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS
2020/2021 ACADEMIC YEAR**

THIRD YEAR, SECOND TRIMESTER EXAMINATION

**FOR THE
DEGREE IN BSC. HEALTH PROFESSIONS EDUCATION**

COURSE CODE: BSP 213

COURSE TITLE: GENERAL PHARMACOLOGY I

DATE:

TIME:

INSTRUCTIONS TO CANDIDATES

Section A: Multiple Choice Questions (MCQ)	20 Marks.
Section B: Short Answer Questions (SAQ)	40 Marks.
Section C: Long Answer Question (LAQ)	40 Marks

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 4 Printed Pages. Please Turn Over.

Section A: Multiple Choice Questions (MCQ)**20 Marks.**

1. **What is the common modern meaning of the word antibiotic?**
 - A. A drug that inhibits bacteria.
 - B. A drug that promotes symbiosis.
 - C. A drug that inhibits protein synthesis.
 - D. A drug that inhibits microbes
2. **Which bacterial process (es) do quinolones and fluoroquinolones inhibit?**
 - A. DNA synthesis and RNA synthesis.
 - B. DNA synthesis.
 - C. Quinolones and fluoroquinolones do not affect nucleic acid synthesis.
 - D. RNA synthesis.
3. **Which of the following statements about antibiotics with a narrow spectrum of antimicrobial activity is FALSE?**
 - A. Narrow-spectrum antibiotics are effective against a limited range of bacteria.
 - B. Narrow-spectrum antibiotics are only effective against Gram-negative bacteria.
 - C. Antibiotics that have a narrow spectrum of activity avoid killing off beneficial bacteria.
 - D. Narrow-spectrum antibiotics target the molecules of specific bacteria.
4. **What unique cell wall structure do mycobacteria have that Gram-negative and Gram-positive bacteria do not?**
 - A. Mycolic acids, which are glycoproteins in the cell wall.
 - B. A mycolic matrix, which is made of glycoproteins in the cell wall.
 - C. Mycolic acids, which are lipids in the cell wall.
 - D. A mycolic matrix, which is made of lipids in the cell wall.
5. **Cyclosporine is used for**
 - A. Allergies
 - B. Angina
 - C. Prevention of transplant rejection
 - D. Steroid deficiency
 - E. Treating lead poisoning
6. **The plasma half-life of penicillin-G is longer in the new born because their**
 - A. Plasma protein level is low
 - B. Drug metabolizing enzymes are immature
 - C. Glomerular filtration rate is low
 - D. Tubular transport mechanisms are not well developed
7. **Methicillin resistant staphylococci do not respond to β -lactam antibiotics because**
 - A. They produce a β -lactamase which destroys methicillin and related drugs
 - B. They elaborate an amidase which destroys methicillin and related drugs
 - C. They have acquired a penicillin binding protein which has low affinity for β -lactam antibiotics
 - D. They are less permeable to β -lactam antibiotics
8. **Aldosterone release is stimulated by**
 - A. Angiotensin I
 - B. Angiotensin

- C. Angiotensin III
 - D. Both (b) and (c)
- 9. Which of the following cardiovascular agents is classified chemically as a glycoside?**
- A. Nifedipine
 - B. Digoxin
 - C. Flecainide
 - D. Warfarin
- 10. Tetracycline in children causes**
- A. Calcifications
 - B. Missing teeth
 - C. Discoloration of teeth
 - D. Peg teeth
- 11. Which of the following is the most effect of atropine in children**
- A. Hypotension
 - B. Tachycardia
 - C. Hperthermia
 - D. Hypertension
- 12. Which of the following drug is both a muscarinic and nicotinic blockers**
- A. Atropine
 - B. Benzotropine
 - C. Hexamethonium
 - D. succinylcholine
- 13. Cyclosporine is used for**
- A. Allergy
 - B. Agina
 - C. Prevention of transport rejection
 - D. Steroid deficiency
- 14. Therapeutic dose is not related to:**
- A. patient's age
 - B. Rout of administration
 - C. Desired therapeutic effect
 - D. Organs of elimination
 - E. Treatment costs
- 15. Advantages of parenteral rout of administration does not include one of the following:**
- A. rapid onset of action
 - B. low risk of overdosing
 - C. precise dosing
 - D. absence of influence on gastrointestinal tract
 - E. 100% bioavailability
- 16. Drug Distribution is the**
- A. Process that defines the drug entrance into the systemic circulation from the site of administration or application
 - B. Abstract concept, which determines where is a drug distributed
 - C. Chemical processing of drugs before they will leave an organism

- D. Disposition of a drug throughout the body from the general circulation
- E. Elimination of drugs from the body

17. Biotransformation is the

- A. Process that defines the drug entrance into the systemic circulation from the site of administration or application
- B. Elimination of drugs from the body
- C. Disposition of a drug throughout the body from the general circulation
- D. Abstract concept, which determines where is a drug distributed
- E. Chemical processing of drugs before they will leave an organism

For question 18,19& 20 match each of the following terminologies with the appropriate definition

- I. _____ Adrenergic receptors
- II. _____ Cholinergic receptors
- III. _____ Muscarinic receptors
- IV. _____ Mode of Action
- V. _____ Beta receptor
- VI. _____ Nicotinic receptors

- A. Is a portion of central and peripheral nervous system
- B. Are receptors that responds to stimulation by muscarinic
- C. Are receptors sites on effectors that responds to acetylcholine
- D. Are receptors sites on effectors that are found to norepinephrine
- E. Are enzyme that deactivates acetylcholine released from the nerve axon
- F. Are Correspond to stimulus by nicotinic agents
- G. found in heart, lungs and vascular smooth muscle

Section B: Short Answer Questions

40 Marks

1. Explain **five** points that must be shared with a client receiving any treatment during health message. 5 marks
2. Outline **five** rights of client/patient with regard to drug administration 5 marks
3. Explain **five** source of errors during drug administration 5 marks
4. Outline **five** major routes of drug administration 5 marks
5. Explain **five** forms of drug preparations 5marks
6. Outline **five** principle of pharmacodynamics 5 marks
7. Name **five** factors that influence drug actions 5 marks
8. Explain **five** general effects of Beta- adrenergic agonist agents 5 marks

Section C: Long Answer Questions**40 marks****Question One**

Discuss special considerations by the primary health care worker to a patient/clients receiving treatment before, during, and after drug administration 20 marks

Question two

Describe ceftriaxone in detail under the following subheadings 20 marks

- I. Classification
- II. Mode of action
- III. Indications & Contraindications
- IV. Dosage
- V. Side effect effects & advise effects

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SCHOOL OF PUBLIC HEALTH BIOMEDICAL SCIENCES AND TECHNOLOGY
DEPARTMENT OF HEALTH PROFESSIONS EDUCATION
2020-2021 ACADEMIC YEAR**

Bachelor of Science in Physiotherapy

BSP 213 GENERAL PHARMACOLOGY ONE (3 UNITS)**Purpose of the Course**

The course introduces the student to basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy.

Expected Learning Outcomes

To be able to understand the general principles of drug action.

To understand the process of handling of drugs by the body.

To be aware of the contribution of both drug and physiotherapy factors in the outcome of treatment.

Course Content:**General Pharmacology**

- Introduction, Definitions,
- Classification of drugs,
- Sources of drugs
- Routes of drug administration,
- Distribution of drugs,
- Metabolism and Excretion of drugs,
- Pharmacokinetics,
- Pharmacodynamics,
- Factors modifying drug response,
- Adverse effects.

Autonomic Nervous System

- General considerations,
- The Sympathetic and parasympathetic systems,
- Receptors, Somatic Nervous System.
- Cholinergic and Anti-Cholinergic drugs,
- Adrenergic and Adrenergic blocking drugs,
- Peripheral muscle relaxants.

Cardiovascular Pharmacology

Drugs used in Treatment of Heart Failure:

- Digitalis,
- Diuretics,
- Vasodilators,
- ACE inhibitors,
- Antihypertensive Drugs:
- Diuretics,
- Beta Blockers,
- Calcium Channel Blockers,
- ACE Inhibitors,
- Central Acting Alpha Alpha Agonists,
- Peripheral Alpha antagonists,
- Direct acting Vasodilators.
- Antiarrhythmic drugs.

Drugs used in the Treatment of Vascular disease and tissue Ischaemia:

- Vascular disease,

- Hemostasis Lipid – Lowering agents,
- Antithrombotic,
- Anticoagulants and Thrombolytics Ischaemic heart Disease – Nitrates, Beta-Blockers, Calcium Channel Blockers.

Mode of Delivery

Lectures
 Demonstration
 Hands on practical in the laboratory.

Instructional Material

Field visits
 Audiovisuals equipment
 Flip charts
 Chalkboards
 Handouts

Course Assessment

Continuous Assessment Tests
 Written Examination
 Practical Examination

Core Reading Materials

Theo Hallmann Phd (2008) Supervisory managerial for health care organization CHA USA St. Louis ISBN 0-697-14126-8
 Stephen H. William (1993) Introduction to health services Delmar ISBN 0-8273-5010-4
 Jonathans Rikich (1987) Cases in health services management 2nd Edition. Aupha USA ISBN 0-910591-04-0

Recommendation Reference Materials

David A. Decenzo (1988) Personnel human resource management Prentice Hall New Delhi ISBN 81-203-2711-x
 Biswafeet Pattanayak (2005) Human resource management Prentice Hall New Delhi ISBN 81-203-2711-x

