



*(University of Choice)*

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

MAIN CAMPUS

**UNIVERSITY EXAMINATIONS  
2023/2024 ACADEMIC YEAR**

**FIRST YEAR, FIRST TRIMESTER EXAMINATIONS**

**FOR THE DEGREE  
OF  
MASTER OF SCIENCE IN NURSING**

**COURSE CODE: NRR 8116**

**COURSE TITLE: ADVANCED PHARMACOLOGY AND THERAPEUTICS**

**(MAIN EXAMINATION)**

**DATE: 15<sup>TH</sup> DECEMBER 2023**

**TIME: 8.00- 11.00 AM.**

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INSTRUCTIONS TO CANDIDATES

ANSWER ALL QUESTIONS

TIME: 3 Hours

MMUST observes ZERO tolerance to examination cheating  
**ATTEMPT ALL QUESTIONS**

## LONG ANSWER QUESTIONS

1. Giving appropriate drug examples, explain the effects of drug disposition in the following disease states:
  - a. Cardiovascular disease (4 marks)
  - b. End stage renal disease (4 marks)
  - c. Thyroid disease (4 marks)
  - d. Infants (4 marks)
  - e. Elderly (4 marks)
  
2. Regarding the biotransformation process of pharmacokinetics;
  - a. Explain 3 (three) outcomes (6 marks)
  - b. Describe the two phases of biotransformation (10 marks)
  - c. Briefly explain the clinical relevance of enzyme inhibition and enzyme induction (4 marks)
  
3. Drug receptor interaction is fundamental in pharmacodynamics.
  - a. Elucidate 5 principles of drug actions (10 marks)
  - b. Describe the mechanism of cyclic adenosine monophosphate ( cAMP)as a second messenger (10 marks)
  
4. Advanced nurse practitioners play a major role in therapeutic drug monitoring.
  - i. Explain 5 indications of therapeutic drug monitoring, cite atleast two drug examples for each indication (10 marks)
  - ii. Discuss 5 (five) strategies that can be applied to prevent occurrence of adverse drug reactions in the clinical setting (10 marks)
  
5. Pregnant and lactating mothers form an important group of clients that require attention when prescribing drugs
  - a. Explain 5 (five)physiological changes in pregnancy and lactation that influence the pharmacology of drugs (10 marks)
  - b. Discuss the Food Drugs association ( FDA) Pregnancy categories ( 10 marks)

**THE END**