



**AMREF INTERNATIONAL UNIVERSITY**  
**SCHOOL OF MEDICAL SCIENCES**  
**DEPARTMENT OF NURSING AND MIDWIFERY SCIENCES**  
**Kenya Registered Community Health Nursing**  
**End of April 2025 Semester Examinations**

**COURSE CODE AND TITLE: DNS 121: Pharmacology II**

**DATE:16-4-2025**

**TIME: 2 HOURS**

**Start: 0900 HOURS**

**Finish: 1100 HOURS**

**INSTRUCTIONS**

1. This exam will be marked **out of 70 Marks**
2. ALL Questions are compulsory.
3. The Examination has Three Sections: Section A- Multiple Choice Questions, Section B: Short Answer Questions, Section C: Long Essay Questions
4. Answer all Questions in the ANSWER BOOKLET provided
5. Do not write anything on the question paper
6. Use the back of your booklet for rough work if need be.

**SECTION I: MULTIPLE CHOICES QUESTIONS**

**(20 MARKS)**

1. One of the following is an example of a beta-blocker: -
  - a) Amlodipine
  - b) Metoprolol
  - c) Enalapril
  - d) Furosemide
2. The first-pass effect primarily occurs in which organ: -
  - a) Kidney
  - b) Liver
  - c) Lungs
  - d) Stomach
3. The primary mechanism of action of aspirin: -
  - a) Inhibition of cyclooxygenase (COX) enzymes
  - b) Blockade of histamine receptors
  - c) Activation of opioid receptors
  - d) Inhibition of angiotensin-converting enzyme (ACE)
4. The main side effect of ACE inhibitors: -
  - a) Hyperkalemia
  - b) Hypoglycemia
  - c) Tachycardia
  - d) Constipation
5. Mannitol is a: -
  - a) Isotonic solution
  - b) Hypotonic solution
  - c) Hypertonic solution
  - d) Isothermic solution
6. Hydrochloric acid secretion is blocked by: -
  - a) Antacids
  - b) Gastric stimulants
  - c) Histamine-2 antagonists
  - d) Anti-histamine

7. The main adverse effect of Thiazolidinediones (TZDs)
  - a) Weight loss
  - b) Hyperinsulinemia
  - c) Hepatotoxicity
  - d) GI disturbance
8. Thiazide diuretics exert their action primarily in which part of the nephron: -
  - a) Proximal tubule
  - b) Thin descending limb of Loop of Henle
  - c) Thick ascending limb of Loop of Henle
  - d) Distal tubule
9. Corticosteroids should be tapered off to:
  - a) Maintain drug efficacy
  - b) Prevent adrenal insufficiency
  - c) Ensure patient compliance
  - d) Minimize side effect
10. The therapeutic index (TI) of a drug is:
  - a) Ratio of LD50 to ED50
  - b) Ratio of ED50 to LD50
  - c) The maximum dose of the drug
  - d) The minimum effective dose
11. The primary mechanism of action of carbonic anhydrase inhibitors: -
  - a) Inhibition of Na<sup>+</sup> reabsorption
  - b) Inhibition of K<sup>+</sup> reabsorption
  - c) Inhibition of bicarbonate reabsorption
  - d) Inhibition of Ca<sup>2+</sup> reabsorption
12. A diuretic that is effective in the management of glaucoma: -
  - a) Loop diuretics
  - b) Osmotic diuretics
  - c) Thiazides
  - d) Potassium-sparing diuretics

13. The adverse effect that is common with Misoprostol use is: -

- a) Hypertension
- b) Diarrhea
- c) Hyperglycemia
- d) Weight gain

14. A common side effect associated with all NSAID drugs is: -

- a) Drowsiness
- b) Gastric irritation
- c) Xerostomia
- d) Constipation

15. One of the following drugs is used to treat severe asthma attacks: -

- a) Salbutamol
- b) Metformin
- c) Lisinopril
- d) Warfarin

16. One of the following is a DPP-4 inhibitor: -

- a) Sitagliptin
- b) Metformin
- c) Glimepiride
- d) Acarbose

17. The risk associated with long-term use of benzodiazepines: -

- a) Dependence and withdrawal symptoms
- b) Hypertension
- c) Hyperglycemia
- d) Increased risk of infection

18. A common side effect of benzodiazepines is: -

- a) Sedation
- b) Hypertension
- c) Hyperglycemia
- d) Tachycardia

19. A benzodiazepine has the longest half-life: -

- a) Diazepam
- b) Lorazepam
- c) Alprazolam
- d) Midazolam

20. Diuretic class that is effective in reducing intracranial pressure: -

- a) Loop diuretics
- b) Thiazides
- c) Osmotic diuretics
- d) Potassium-sparing diuretics

AMMU

**SECTION II: SHORT ANSWER QUESTIONS****(30 MARKS)**

1. Giving one example of each, outline four (4) classes of oral hypoglycemic agents. (8 marks)
2. Explain the mechanism of action of four (4) classes of antihypertensives. (8 marks)
3. Giving one example of each, outline four (4) classes of diuretics. (8 marks)
4. Explain three (3) lifestyle modifications that can be used in the management of hypertension. (6 marks)

**SECTION II: LONG ANSWER QUESTIONS****(20MARKS)**

1. Mr. Katege 44 years is admitted in the medical with a diagnosis of Peptic Ulcer Disease (PUD). On examination, the nurse notes that she has peripheral pitting edema.
  - a) State four (4) differences between stomach ulcers and duodenal ulcers. (4 marks)
  - b) Giving examples outline four (4) classes of drugs that can be used in treatment of PUD. (8 marks)
  - c) Explain the mode of action of each class stated in the above question the mode of actions. (8 marks)