



Final term Exam
Jun. 2025



Department: Zoology

Major:
3rd level Molecular Biology

Course Title:
Molecular Pharmacology

Code number: 305 Z

Total Marks: 90

Date: 22 / 1 / 2026

Time: 2 Hours

الإمتحان في صفحة واحدة

Question One: (30 Marks)

Explain the following pharmacological terms: (5 marks for each)

1. Therapeutic index versus therapeutic window.
2. Graded versus Quantal Dose-response relationship.
3. Rebound effect versus Withdrawal effect (syndrome).
4. Reversible versus Irreversible drug receptor antagonism.
5. Physiological antagonism versus Physical antagonism.
6. Absorption of drugs versus drug bioavailability.

Question Two: (20 Marks)

Define receptors. List types of Drug-Receptor Bonds. Mention four (4) Major Receptor Families. Explain molecular mechanisms of action of each receptor family and give examples of each type.

Question Three: (20 Marks):

A. Define Volume of Distribution (Vd) of drugs. How can you calculate and what are its clinical significances in practice? (10 marks)

B. Describe Biochemical reactions involved in drug metabolism and demonstrate how these reactions can affect drug response. (10 marks)

Question Four: (20 Marks)

A. Define elimination Half-life ($t_{1/2}$) of drugs and demonstrate the value of knowing half-life of drugs in practice. (10 marks)

B. Explain Binding of drugs to plasma proteins and describe its Clinical significance in practice. (10 marks)

"End Exam" With Best Wishes

*Prof. Dr.
Mohammed-Hesham*

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