



Final term Exam



Department: Zoology

Major:

Course Title: Cell Physiology

Time: 1 Hour

Zoology/chemistry

Code number: 211 Z

Date: 29.01.2025

second year students

Mark: 35

Answer the Following Questions:

Question One: (15 marks)

Write in details on: (1) molecular structure, (2) function and (3) mechanism of action of $\text{Na}^+\text{-K}^+\text{-ATPase}$. Make the necessary labelled diagrams.

Question Two: (10 Marks)

Discuss the following:

- The formation of lipid bilayers is a self-assembly process
- Membrane fluidity is controlled by membrane components.

Question Three: (10 marks)

Fill in spaces:

- The common types of membrane lipids are ---(1)---, ---(2)---, and ---(3)---
- A cerebroside is a ---(4)---, it differs from ganglioside in ---(5)---
- The most common poly alcohols in membrane phospholipids are ---(6)--- and ---(7)---
- Features that distinguish facilitated diffusion from simple diffusion include ---(8)---, ---(9)---, and ---(10)---
- The role of lipids in a biological membrane is ---(11)---, while that of proteins is ---(12)---
- Solutions that have the same solute concentration as the cell interior is called ---(13)---, while that with higher concentrations are called ---(14)---
- The common features of biological membranes include ---(15)---, ---(16)---, and ---(17)---
- The favored structure for a phospholipids in aqueous media is a ---(18)--- and not a micelle, because ---(19)--- and ---(20)---

Best Wishes

Prof. Ayman Hyder