WI-2-60-1-6

JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY

UNIVERSITY EXAMINATIONS 2024/2025

MSc Medicinal Chemistry

TPS 3106: Chemistry of Proteins and Peptides

End of Semester Examination

Semester 2, 2024/2025 Academic Year

DATE: NOVEMBER 2025 **TIME: 2 HOURS**

Instructions:
Answer ANY FOUR questions

1. Using appropriate examples, describe the strategies utilised to overcome the renal clearance of peptide drugs (**25 marks)**
2. Describe the general process of solid-phase peptide synthesis (SPSS) with Fmoc protected amino acids (Fmoc-AA-OH) **(25 marks**)
3. Elaborate on the display systems utilised in peptide drug discovery (**25 marks**)
4. Explain the advantages and limitations of peptide-based drugs and elaborate on the strategies developed to address the drawbacks (**25 marks**)
5. Elaborate on the approaches utilised in integrated venomics **(25 marks**)
6. Describe how you would reverse engineer a novel subunit vaccine for a recently discovered virulent infectious respiratory virus (**25 marks**)