

CHUKA



UNIVERSITY

UNIVERSITY EXAMINATIONS

EXAMINATION FOR THE AWARD OF DEGREE OF BACHELOR OF SCIENCE IN BIOCHEMISTRY

BMET 337: DRUG DELIVERY SYSTEM

STREAMS: BSc.

TIME: 2 HOURS

DAY/DATE: TUESDAY 18/4/2023

11.30 A.M. – 1.30 P.M.

INSTRUCTIONS: Answer Question One and Any Other Two Questions

QUESTION 1 (COMPULSORY) (30 MARKS)

- a) Differentiate between controlled release and sustained release. (2 marks)
- b) Outline different polymers for biomaterials and their desired characteristics. (5 marks)
- c) Draw the structure of virosome. (4 marks)
- d) Outline the advantages of virosomal drug delivery. (2 marks)
- e) Explain the types of ligand based immune-toxins. (3 marks)
- f) Describe the 2 multidrug efflux pumps. (2 marks)
- g) Describe the multidrug resistance caused by altered physiological states. (2 marks)
- h) Describe the strategies for drug delivery to the brain. (2 marks)
- i) Explain the contribution of RND efflux pumps. (2 marks)
- j) Explain the fusion activity of virosomes. (3 marks)
- k) Outline the advantages of peptides and proteins. (3 marks)

QUESTION 2 (20 MARKS)

- a) Discuss the pharmacokinetics parameters of drugs. (10 marks)
- b) Discuss the different types of cytotoxic moiety. (10 marks)

QUESTION 3(20 MARKS)

- a) Explain factors influencing the design and act of controlled released products. (10 marks)
- b) Discuss the assembly, maintenance and transfer of resistant genes. (10 marks)

QUESTION 4 (20 MARKS)

- a) Discuss the application of proteins and peptide in diseases management. (10 marks)
 - b) Describe the biochemical mechanism of drug resistance. (10 marks)
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