



KENYATTA UNIVERSITY

UNIVERSITY EXAMINATIONS 2011/2012

SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF SCIENCE

SZL 207: ESSENTIALS OF CELL BIOLOGY

DATE: Thursday, 29th March, 2012

TIME: 2.00 p.m. – 4.00 p.m.

INSTRUCTIONS:

Answer **ALL** questions from Section A and any **ONE** from Section B. Within a Section **ALL** questions carry equal marks. Illustrate your answers with diagrams and give examples where appropriate.

Section A:

Answer **ALL** questions (40 marks)

1. Describe the mechanism of nerve impulses at the neuromuscular junction.
2. Explain how the properties of fatty acid chains of membrane phospholipids affect membrane fluidity.
3. State five properties and 5 functions of cytokines.
4. Describe briefly how antigens are processed and presented by antigen processing cells.
5. Distinguish between facilitated diffusion and passive diffusion.

6. Describe the functions of membrane proteins.
7. Describe the structure and functions of desmosomes.
8. Describe the basic types of secondary messengers.

Section B:

Answer **ONE** question (30 marks)

9. Write an essay on the risk factors of cancer.
10. Discuss the mechanisms of necrotic and apoptotic cell death. How are these processes different.
11. Describe the general features, structure of major histocompatibility complex (MHC) molecules.