



MACHAKOS UNIVERSITY

University Examinations 2016/2017

SCHOOL OF PURE AND APPLIED SCIENCES

DEPARTMENT OF BIOLOGICAL SCIENCES

THIRD YEAR FIRST SEMESTER EXAMINATION FOR BACHELOR OF SCIENCE

(BIOLOGY)

SZL 407 ADVANCED IMMUNOLOGY

DATE: 1/8/2017

TIME: 2:00 – 4:00 PM

INSTRUCTIONS

Answer Question One and Any Other Two Questions

1.
 - a) Briefly explain the source of cells of the immune system (4 marks)
 - b) Write explanatory notes on the role of macrophages in immunity (3 marks)
 - c) Outline the properties of immunogens (3 marks)
 - d) Explain the different types of grafts. (4 marks)
 - e) Briefly explain the term complement (4 marks)
 - f) Describe the properties of tumors (4 marks)
 - g) Outline the characteristics of a good vaccine (4 marks)
 - h) Distinguish between immediate and delayed type hypersensitivity (4 marks)
2. Discuss the following phrases
 - a) Tumor associated antigens. (10 marks)
 - b) Host response to tumor associated antigens. (10 marks)
3. Describe
 - a) The biological functions of complement (4 marks)
 - b) The classical pathway of complement (16 marks)
4. Write an essay on the differences between antibodies and cytokines (20 marks)

5. Explain the process of phagocytosis

(20 marks)