



**KISII UNIVERSITY**  
**UNIVERSITY EXAMINATIONS**

**THIRD YEAR EXAMINATION FOR THE AWARD OF THE**  
**DEGREE OF BACHELOR OF SCIENCE IN BIOTECHNOLOGY**  
**FIRST SEMESTER 2022/2023**  
**[SEPTEMBER-DECEMBER, 2022]**

**BIOT 312: IMMUNOLOGY AND IMMUNOTECHNOLOGY**

**STREAM: Y3S1**

**TIME: 2 HOURS**

**DAY: FRIDAY, 3:00 – 5:00 PM**

**DATE: 09/12/2022**

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**INSTRUCTIONS**

- 1. Do not write anything on this question paper.***
- 2. Answer ALL questions in section A and any other TWO in section B***

**SECTION A (40 Marks)**

1. Briefly describe complement fixation test in assaying for presence of antibody in a sample. (7 marks).
2. Briefly give the applications of monoclonal antibodies. (6 marks)
3. Discuss phases of graft rejection. (6 marks)
4. Briefly discuss the causes of immunodeficiency. (6 marks)
5. Write short notes on the causes of autoimmunity. (6 marks)
6. Briefly describe the three classes of tumour antigens. (6marks)
7. Briefly give the immunodiagnostic methods of tumor antigens. (3 marks)

**SECTION B (30 marks)**

**Answer any TWO questions from this section**

8. Discuss the principle and procedure of ELISA assay. (15 marks)
  
9. Discuss the structure and function of MHC Class I and II molecules. (15 marks)
  
10. Discuss primary immunodeficiency. (15 marks)