

**W1-2-60-1-6**

**JOMO KENYATTA UNIVERSITY OF AGRICULTURE AND TECHNOLOGY**

**UNIVERSITY EXAMINATIONS 2017/2018**

**SUPPLEMENTARY/SPECIAL EXAMINATION**

**HBB 2308: IMMUNOTECHNOLOGY**

**DATE: OCTOBER 2018 TIME: 2 HOURS**

**INSTRUCTIONS: Answer question one compulsory and any other two questions.**

QUESTION ONE

a. Describe the principle of vaccination. (6 marks)

b. Highlight six useful properties of monoclonal antibodies. (6 marks)

c. Briefly describe the recognition of allo-antigens. (6 marks)

d. Explain six advantages of live-altinated vaccines. (6 marks)

e. Differentiate between artificial passive immunity and natural passive immunity.

 (6 marks)

QUESTION TWO

a. Discuss the merits and demerits of transgenic models used for immunological ???

 (10 marks)

b. Describe the formation and selection of hybrid cells during antibody production by hybridoma technology. (10 marks)

QUESTION THREE

a. Describe the characteristics of the various effector mechanism of allograft rejections.

 (10 marks)

b. Attempts have been made to encourage the wider use of oral vaccines. One idea is to genetically alter banana plants so that the vaccine can by synthesized in the banana. Explain the advantages and the disadvantages of such vaccines. (10 marks)

QUESTION FOUR

a. Explain the reasons at to why vaccines are not always effective. (10 marks)

b. Describe the roles of CD-4-T-Cells, CD8-T-Cells and Cytokinez in rejection of allografts.

 (10 marks)