



MERU UNIVERSITY OF SCIENCE AND TECHNOLOGY
P.O. Box 972-60200 – Meru-Kenya
Tel: +254(0) 799 529 958, +254(0) 799 529 959, + 254 (0) 712 524 293,
Website: info@must.ac.ke Email: info@must.ac.ke

University Examinations 2023/2024

**FOURTH YEAR FIRST SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR
OF SCIENCE IN BIOCHEMISTRY**

SHC 3400: BIOCHEMISTRY OF IMMUNOLOGY

DATE: DECEMBER 2023

TIME: 2 HOURS

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

QUESTION ONE (30 MARKS)

- a) List the types of grafts in humans/ animals (4 marks)
- b) Outline three theories of antibody synthesis (3 marks)
- c) List three functions of major histocompatibility class of antigens (3 marks)
- d) Explain briefly the induction of B cell tolerance (4 marks)
- e) Outline main characteristics of type I hypersensitivity reactions (3 marks)
- f) State three major functions of the complement system (3 marks)
- g) Name complement activation pathways (3 marks)
- h) Outline four application of monoclonal antibodies (4 marks)
- i) List any three antigen presenting cells(APCs) involved in immune response (3 marks)



MUST is ISO 9001:2015 and



ISO/IEC 27001:2013 CERTIFIED

QUESTION TWO (20 MARKS)

Discuss the immune responses for bacterial, viral and parasitic infection (20 marks)

QUESTION THREE (20 MARKS)

Describe immune responses observed in type I and type IV allergic reactions (20 marks)

QUESTION FOUR (20 MARKS)

Discuss the process of production of monoclonal antibodies and their application
(20 marks)



MUST is ISO 9001:2015 and



ISO/IEC 27001:2013 CERTIFIED