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(*University of Choice*)

MASINDE MULIRO UNIVERSITY OF SCIENCE AND TECHNOLOGY (MMUST)

UNIVERSITY EXAMINATIONS

2021/2022 ACADEMIC YEAR

MAIN EXAMINATIONS
MAIN CAMPUS

THIRD YEAR SECOND SEMESTER EXAMINATIONS

FOR THE DEGREE
OF
BACHELOR OF SCIENCE IN BIOCHEMISTRY

COURSE CODE: SBM 321

COURSE TITLE: IMMUNOCHEMISTRY

DATE: THURSDAY, 21ST APRIL 2022 **TIME: 3:00 – 5:00 P.M.**

INSTRUCTIONS TO CANDIDATES

Answer ALL questions in section A and ANY TWO selected from section B

TIME: 2 Hours

MMUST observes ZERO tolerance to examination cheating

This Paper Consists of 2 Printed Pages. Please Turn Over.

SECTION A (SHORT ANWSER QUESTIONS, 40 MARKS)

1. Draw and label the basic structure of a Immunoglobulin Gamma (IgG). (6 marks)

2. Explain what a papain digest reveals about antibody functions. (5 marks)

3. Define valency and identify three (3) antibody classes with different valency. (4 marks)

4. Describe the lattice hypothesis of precipitin reaction and list four (4) molecular forces involved. (5 marks)

5. Describe an One-dimensional immunodiffusion (Oudin) assay. (5 marks)

6. Explain how our body is able to produce infinite amount of antibodies despite having just a small amount of antibody genes on the DNA. (5 marks)

7. Describe the production of polyclonal antibodies under laboratory conditions. (5 marks)

8. List the steps of a TAS-ELISA (Triple Antibody Sandwitch-Enzyme linked immunosorbent assay). (5 marks)

SECTION B (ESSAY QUESTIONS, 30 MARKS)

9. Describe T cell-dependent activation of B cells in a mammalian body. (15 marks)

10. By using a diagram, explain the primary and secondary response of a human body to antigen exposure. (15 marks)

11. Describe a Western Blot experiment. (15 marks)