



**ELIZADE UNIVERSITY,
ILARA-MOKIN,
ONDO STATE**

FACULTY: BASIC & APPLIED SCIENCES

DEPARTMENT: BIOLOGICAL SCIENCES

FIRST SEMESTER EXAMINATION

2014/2015 ACADEMIC SESSION

COURSE CODE: BCH 313

COURSE TITLE: IMMUNOLOGY AND IMMUNOCHEMISTRY

DURATION: 2 1/2 HOURS

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HOD's SIGNATURE

NAME:.....MAT. No:.....

INSTRUCTIONS

Answer any two questions in Section A.

In section B,

Answer Test I (10 out of 12).

In Test II, answer 3 out 4.

Test III. Compulsory. Answer both questions.

SECTION A. Answer only 2.

- a. The structure of antibody is related to its function. Discuss
- b. Differentiate between innate and adaptive (acquired) immune response
- a. What are the main advantages and disadvantages of relying on physical barriers against infection?
- b. Although pus is often seen simply as a sign of infection, it is also an indicator of immune response in action. Explain
- a. Describe in detail, the role of the MHC class I and II in antigen presentation
- b. Using diagram only, describe how the cytotoxic T cell interact with the MHC Class I in eliminating infected cells.

SECTION B

I. Short answer questions, differentiate briefly. Answer 10 only.

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|---|---|
| 1. Epitope and paratope | 7. ELISA and Radioimmunoassay |
| 2. Valency and affinity | 8. BCR and Fab |
| 3. Humoral and cell-mediated immunity | 9. Polyclonal and monoclonal antibodies |
| 4. Active and passive immunity | 10. Clonal expansion and clonal deletion |
| 5. Immunologic tolerance and immunologic memory | 11. Immunoelectrophoresis & immunodiffusion |
| 6. Inflammation and opsonisation | 12. immunoglobulin and MHC |

II. Essay, answer 3 out 4.

- A. Describe each of 5 stages of immune response after antigen exposure.
- B. Describe each of 4 major categories of hypersensitivity and their underlying causes.
- C. Describe each of 5 experimental assays to determine Ag-Ab interactions
- D. To be immunogenic, describe 5 properties of antigens.

III. Answer both questions (A and B).

- A. An 8 year old boy is brought into the medical clinic by his mother after a bee sting 30 minutes ago. She states that he had been stung once before "a few months ago" but that "it wasn't nearly this bad." Explain why the boy's second exposure to bee venom resulted in a much worse allergic reaction?
- B. A 10 year old asthmatic girl goes into respiratory distress after moving with her family to a new house. Her father thinks that the new house may have re-exposed her to allergens that trigger her asthma. She is treated in the ED and after 2 hours is breathing much better. However, 6 hours later she begins to wheeze again. You know that her asthma reaction is probably an immediate (type I) hypersensitivity reaction. Explain the recurrence of her symptoms.