TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF **MEDICAL SCIENCES**

DIPLOMA IN MEDICAL LABORATORY SCIENCES
(DMLS 12J)

AML 2220: IMMUNOLOGY I

SPECIAL/SUPPLEMENTARY: EXAMINATIONS

SERIES: February 2013

TIME: 2 HOURS

INSTRUCTIONS:

You should have the following for this examination
- *Answer booklet*

This paper consists of **TWO** sections.

Answer all questions in **Section A** and **B.** ½ marks deducted for any wrong answer in **Section A**.

*This paper consists of **7 PRINTED** pages*

SECTION A (40MARKS)

1. Which Class of antibodies can cross the placenta.
   a) IgA
   b) IgG
   c) IgM
   d) IgE

2. Measles is a disease exclusively affecting
   a) Humans
   b) Dogs
   c) Birds
   d) Cows

3. Which of the following is true about IgM
   a) It has a molecular mass of about 900 KDa
   b) It has can activate complement
   c) It participates in defence against helminthes
   d) It act as a receptor for mast cells

4. The following statement are false about passive immunity except
   a) It results in no memory hence a reinjection with the same pathogen does not lead to a secondary response
   b) Antibodies can be transferred to someone who has first been bitten by a snake.
   c) As a result of recognition of Antigen, the body responds to synthesize and secrete specific antibodies for that Antigen.
   d) Antibodies can be transferred from a non immune person to an immune person

5. In complement activation
   a) C_4b_2b goes with circulation as plasma problem
   b) C_3b combines with C_4b_2a to form the C_5 convertase
   c) Binding of the C_1 convertase initiates the alternative pathway.
   d) Binding of C_1 convertase to the Fc portion of IgM or IgG initiates the classical pathway.

6. An antibody that leads to complement cysis is called a:
   a) Serologin
   b) Complement fixing Antibody
   c) Agglutions
   d) Neutralizing antibody

7. The variable regions of Antibodies are located in the :

(i) Fc region (ii) Fab region (iii) Light chain (iv) Heavy chain

a) (i), (iv)
b) (ii), (iv)
c) (i), (iii)
d) (iii), (iv)

8. All of the following are true of immune complexes except:
   a) Usually complement component are included in antigen-antibody complexes
   b) An immune complex consists of Antigen attached to antibody
   c) The most common complexes consists of Antigen-IgE-complement
   d) Immune complexes activate shoring inflammatory reactions.

9. The following statement are true about phagocylosis except
   a) It is performed by microghal cells
   b) The process begins water the identification of pathways.
   c) The effectors cell receptor will not be implicated
   d) The process confers memory to the affection cells

10. The following statement are false about the subsection of papain to an IgG molecule except
    a) Papain cleaves just above the hinge region to produce one Fc fragment
    b) Two divalent fab Fab fragment are produced
    c) The fc fragment are degraded to produce two fragments
    d) Two monovalent fab fragment are produced

11. The following are ways to control infectious diseases except.
    a) Provision of clean air and adequate ventilation
    b) Walling blue feet
    c) Provision of a secure clean water supply
    d) Eating good food in the laboratory

12. Which of the following statement are true about antigens:
    a) Antibodies will combine specifically with antigens that cause their production
    b) Antigen may be host cell components
    c) B-cell differentiates into plasma cells after stimulation thereby being able to secrete antigens
    d) Antigens may be luxins from bacteria

SECTION B ESSAY (60MARKS) Answer all questions

1. Describe the cells of the immune system **(10marks)**
2. Describe the basic structure of immunoglobulin **(10marks)**

3. Describe the stages of phagocylosis **(10marks)**
4. Differentiate between innate and acquired immunity **(10marks)**
5. a) Briefly describe the organs of the immune system **(10marks)**
   b) Explain the importance of the complement system in the body **(10marks)**