



TECHNICAL UNIVERSITY OF MOMBASA

Faculty of Applied and Health Sciences

DEPARTMENT OF MEDICAL SCIENCES

CERTIFICATE IN MEDICAL LABORATORY SCIENCES
(CMLS 12J)

AML 1221 : IMMUNOLOGY II

SPECIAL/SUPPLEMENTARY : EXAMINATIONS

SERIES: OCTOBER 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 6 PRINTED pages

SECTION A (40MARKS)

1. Which of the following conditions is/are not an example of types I hypersensitivity
 - a) Haemolytic disease of the newborn
 - b) Urticaria
 - c) Systemic lupus erythematosus
 - d) Allergic asthma

2. Delayed type hypersensitivity is different from other types because
 - a) It is antibody mediated
 - b) It is cell mediated
 - c) Antigen is presented to CD4 cells with class II MHC protein
 - d) Antigen is presented to CD8 cells with class I MHC protein

3. Central immunotolerance development involves
 - a) Positive selection process
 - b) Peripheral selection process
 - c) Negative selection process
 - d) None of the above

4. Failure of immune system to recognize individual cell components is known as
 - a) Immunosuppression
 - b) Immunostimulation
 - c) Immunodeficiency
 - d) Autoimmunity

5. Failure of the immune system to mount response on infectious disease is known as
 - a) Immunostimulation
 - b) Immunotolerance
 - c) Immunosuppression
 - d) Immunodeficiency

6. Substances that trigger immune system by inducing activation or increasing activity of any of its components is known as
 - a) Immunostimulators
 - b) Immunosuppressants
 - c) Immunotolerance
 - d) Antibodies

7. Induced immunosuppression is mainly indicated in
 - a) Preventing normal immune response from undesirable reactions
 - b) Preventing immune response from central tolerance
 - c) Preventing immune response from rejecting grafted tissue
 - d) Preventing immune response from attacking pathogens

8. Secondary lymphoid organs include
 - a) Thymus
 - b) Spleen
 - c) Bone marrow
 - d) Lymph node

9. The main functions of primary lymphoid organs is to:-
- Expose cells to antigens
 - Generate complements
 - Selection of immunocompetent cells
 - Produce antibodies
10. Thymus gland is :
- Divided into 3 lobes
 - Divided into 2 lobes
 - High thymocytes concentrate area
 - Antigenic exposure area
11. Transfer of tissue from one part of the body to another part of the body of the same individual is referred to
- Isograft
 - Allograft
 - Xenograft
 - Auto graft
12. Secondary immunodeficiency may occur due to the following except
- Congenital defects
 - Nutrition factors
 - Infections
 - Chemical factors
13. Complement units have been grouped into:
- Sensitization unit
 - Recognitions unit
 - Activation unit
 - Stimulation unit
14. The following proteins plays an important role in alternate pathway of complement activation
- Labile factors
 - Factor BD
 - Factor C
 - Factor A
15. Immunodiagnostic tests include the following except
- Neutralization tests
 - Immunofluorescence
 - Microscopy
 - Photometry
16. The following conditions are mostly associated with primary immunodeficiency
- Malnutrition
 - Malignancy
 - Complement deficiency
 - Granulocytes dysfunction

17. Autoimmune disease may be associated with the following findings
- T-lymphocytes with self or direct activities
 - Weak reaching antibodies
 - High concentrateion of serum complement
 - Complement activation
18. The following MHC proteins are antigens of class II protein except
- HLA-DQ
 - HLA –DP
 - HLA –B
 - HLA –DR
19. Graft between two identical twins is reffered to
- Antograft
 - Xenograft
 - Isograft
 - Allograft
20. Carcinoembryonic antigens is detected in :
- Liver cancer
 - Viral induced cancer
 - Cancer of the lungs
 - Cancer of the prostrate
21. Which of the following cells express MHC class I markers
- T cells
 - B cells
 - Macrophages
 - B and T cells
22. Which one of the following antibody response is relatively richer in IgM and takes 7-10 days to appear.
- Secondary response
 - Primary response
 - Tertiary response
 - Macrophage activation
23. Which regions of immunoglobulin determine immunoglobulin class
- Variable region of heavy and light chains
 - Constant region of heavy and light chains
 - Variable region of heavy chain
 - Constant region of light chain
24. Which of the following condition is associated with the antibodies to the DNA
- Rheumatoid arthritis
 - Rheumatic fever
 - Systemic lupus crypromatosus
 - Grave's disease

25. Which of the following immunoglobulin present in highest concentrate in secretions
- IgE
 - IgA
 - IgM
 - IgG
26. Which of the following hypersensitivity involves mast cells and basophils
- Immediate hypersensitivity
 - Cytotoxic hypersensitivity
 - Immune complex hypersensitivity
 - Delayed hypersensitivity
27. Which of the following MHC protein belongs to class I
- HLA –DP
 - HLA –B
 - HLA –DR
 - HLA –DQ
28. After stung by a bee, a child experiences respiratory distress and within minutes the child collapse into unconsciousness. This reaction is probably mediated by
- IgM
 - IgG
 - IgE
 - Sensitized T-cells
29. C_{3a} and C_{5a} can cause
- Bacterial lysis
 - Vascular permeability
 - Phagocytosis of IgE coated bacteria
 - Aggregation of C_4 and C_2
30. Classic complement pathway is initiated by
- Antigen
 - Antigen-antibody complex
 - Antigen-complement complex
 - Antibody

SECTION B

1. Write short notes on
 - (i) Complement (5marks)
 - (ii) MHC (5marks)
 - (iii) Immunostimulation (5marks)
 - (iv) Immunodeficiency (5marks)
2. (i) Describe classification of autoimmune diseases and give an example (10marks)
(ii) Differentiate between Type I and Type III hypersensitivity. (6marks)
(iii) State the mechanism of Type IV hypersensitivity and give one condition as an example (4marks)
3. With the aid of a well labelled diagram discuss the structure and function of immunoglobulin's (20marks)