Immunology Questions I M.Sc.

1.All of the following are true with respect to IgM antibodies EXCEPT which one

A. they fix complement
B. they occur on the surface of lymphocytes
C. they predominate in the primary response to antigen
D. they are glycoproteins
E. they mediate allergic reaction

2. All of the following are true of antigen EXCEPT which one of the following?

A. They contain epitopes.
B. They will react with antibodies.
C. They contain antigenic determinants.
D. They can elicit an immune response.
E. They contain paratopes.

3. All of the following are true with respect to IgE molecules, EXCEPT which one?

A. They are the principal immunoglobulin class involved in allergic reactions.
B. They are involved in mediating anti-parasitic immune responses.
C. They will cross the placenta and fix complement.
D. They can effect the release of histamine and other chemical mediators.
E. They are the least abundant immunoglobulin in the serum.

4. Which of the following immunoglobulins is present normally in plasma at the highest concentration?

A. IgG
B. IgM
C. IgA
D. IgD
E. IgE

5. All of the following are true about antibodies, EXCEPT which one?

A. They fix complement.
B. They occur on the surface of B-lymphocyte
C. They predominate the primary immune response to antigen.
D. They are glycoproteins.
E. They are molecule with a single, defined amino acid sequence.

6. The major immunoglobulin family to which a particular immunoglobulin belongs can be determined by sequential analysis of the 110 amino acids beginning from the

A. Amino terminus of the light chain.
B. Carboxy terminus of the light chain.
C. Amino terminus of the heavy chain.
D. Carboxy terminus of the heavy chain.
E. None of the above

7. The immunoglobulin Joining chain (J-chain) is

A. only produced by T-Cells
B. only produced by neutrophils
C. associated with only multimeric forms of lgM and IgA
D. associated with IgE for histamine release
E. only produced by mast cells

8. All of the following are true EXCEPT

A. An epitope is a small portion of a macromolecule
B. the variable region domains contain the antigen recognition site

C. an antigenic determinant is a paratope
D. The class of an immunoglobulin is determined by its heavy chain
E. An IgG antibody is bivalent

9. Which immunoglobulin is the principal one found in secretions such as milk?

A. IgG
B. IgM
C. IgA
D. IgD
E. IgE

10. Individuals unable to make the J protein found in certain immunoglobulins would be expected to have frequent infections of the

A. brain.
B. blood.
C. liver.
D. pancreas.
E. intestinal tract.

11. Which of the following statements best characterizes an antibody?

A. An antibody contains high molecular weight RNA as its basic structure.
B. An antibody is composed of protein and cannot be distinguished from the albumin fraction of the serum proteins.
C. An antibody is composed of four identical protein subunits which may be caused to dissociate by treatment with urea.
D. An antibody contains protein as its major chemical component and its synthesis may be elicited by the administration of a foreign protein or polysaccharide.
E. An antibody contains mucopolysaccharides as its major chemical component and the synthesis of these may be elicited by the administration of a foreign protein or polysaccharide.

12. The immunoglobulin class which is the least abundant in the normal adult is

A. IgG
B. IgA
C. IgM
D. IgD
E. IgE.

13. Class switching of immunoglobulins occurs

A. Usually with booster immunizations, going from IgM to IgG
B. binds complement
C. causes the histamine release
D. mediates immunoglobulin class switching
E. results in the glycosylation of immunoglobulins

14. The class of an immunoglobulin

A. is determined by Class I and Class II major histocompatibility complex proteins
B. is determined by the carbohydrate attached to the light chain is
C. determined by the antigen
D. is determined by the heavy chain type
E. Is determined by the J-chain

15. The class of an immunoglobulin is determined by

A. the variable region
B. the J-chain
C. the heavy chain
D. the carbohydrate

E. the T3 polypeptide complex

16. Light chains are

A. specific for each class of antibody
B. not specific for each class of antibody
C. reactive with antigen
D. have only a constant region
E. are composed only of carbohydrate

17. IgE is

1. An allergy associated immunoglobulin
2. the least abundant immunoglobulin in the plasma
3. binds to mast cells
4. can cross the placental barrier

18. IgE

1. is produced by mast cells
2. is produced by B-cells
3. is produced by T-cells
4. binds to mast cells

19. Which of the following are true statements

1. IgM and IgG can fix complement
2. IgA is a secretory immunoglobulin
3. IgE mediates immediate hypersensitivity
4. IgD provides most passively acquired maternal immunity

20. IgE is
    a. An immunoglobulin associated with some kinds of allergic reactions
    b. the least abundant typo at antibody synthesized
    c. associated with the mast cell for histamine release
    d. produced during the primary immune response before class switching
21. Antibodies are
    a. Immunoglobulins
    b. composed of variable and constant region domains
    c. made of heavy and light chains
    d. glycoproteins
22. The antigenic determinate
    a. is the combining site of an antibody
    b. is usually no more than five or six amino acids of the antigen
    c. is the paratope
    d. Consists of a small topological feature of the antigen
23. A critical property of an antigen is
    a. Its ability to stimulate an immune response
    b. a unique topotogical feature called an paratope
    c. a unique topological feature called an epitope
    d. not a unique topological feature called an antigenic determinant
24. An antigenic determinant is
    a. a small topological feature of a large macromolecule such as A protein or carbohydrate
    b. specifically recognized by a epitope
    c. specifically recognized by a paratope
    d. specifically recognized by the T4 protein
25. Immunoglobins
    a. are antibodies
    b. are classified into five major classes, i.e., IgM, IgG, IgA, IgD, IgE
    c. have a molecular specificity to recognize unique epitope
    d. possess both variable and constant region domains

26. The basic monomeric Immunoglobulin unit is
    a. composed of four; polypeptide chains
    b. only an integral membrane protein and never secreted
    c. one of five major classes
    d. synthesized by a T-cell without carbohydrate
27. Antibodies
    a. are carbohydrates
    b. are made from alpha and beta chains
    c. contain no carbohydrate
    d. contain heavy and light chains
28. The basic monomeric immunoglobulin unit is
    a. composed of four polypeptides chains
    b. representative of a single protein type for all antibody classes
    c. able to associate with J- chain to form multimers in some cases
    d. the same structure as the T-cell antigen receptor
29. The basic monomeric form of an immunoglobulin
    a. is a tetramer consisting of two light and two heavy chains
    b. is associated with J-chain in the IgD
    c. can occur as multimers with IgA and IgM
    d. exists only on the cell surface of B-cells

31. Immunoglobulins are produced by
    1. Plasma cells
    2. T-cells
    3. B-cells
    4. Macrophages
32. Antibodies are distinguished from antigens, because they
    1. can only be proteins
    2. always have carbohydrate attached to their heavy chains
    3. can only be made by B-cells and plasma cells
    4. contain nucleic acids
33. Antibodies are distinct from antigens
    1. because they can only be proteins
    2. because they are only produced by B-cells
    3. because they are not normally recognized as "foreign"
    4. because they are only produced by T-cells
34. Antigen-antibody reactions can result in the following:
    1. Agglutination
    2. complement fixation
    3. virus neutralization
    4. allergic reactions
35. Effector functions of immunoglobulins are
    1. The property of the constant region domains of L-chains
    2. The property of the constant region domains of J-chains
    3. The property of the variable region domains of H-chains
    4. The property of the constant region domains of H-chains