1. Antigen is…….:

A. A smallsoluble protein produced by cells in response to microbes

B. A substance that is recognized by the immune system

C. An inherited self protein present on the surface of nucleated cells

D. Noneofthe above

2. B lymphocytes can recognize……..antigens

A. Carbohydrate,

B. Lipid,

C. Protein,

D. Allof the above

3. T lymphocytes can recognize ……..antigens

A. Carbohydrate,

B. Lipid,

C. Protein,

D. Allof the above

4. Smallest part on Ag which bind with BCR & T cell receptors…….

A. Epitope

B. Paratope

C. Isotope

D. Integrin

5. Multivalent Ag is an Ag that contains……..

A. Multiple and different epitopes B. Multiple and identical epitopes C. Multiple and different paratopes D. Multiple and identical paratopes

1. B	2. D	3. C	4. A	5. B

6. .....are antigens that contain epitopes that induce a specific immune response and are the targets of that response?

A. Immunogens

B. Haptens

C. Tolerogens

D. Mutagen

7. .....are small Ag with epitopes capable of binding with immune receptor without inducing immune response unless conjugated with large carrier molecule

A. Immunogens

B. Haptens

C. Tolerogens

D. Mutagen

8. .....are self-antigens normally not stimulate immune system.

A. Immunogens

B. Haptens

C. Tolerogens

D. Mutagen

9. Regarding antigen which of the following is correct .....

A. All antigens are immunogens.

B. All antigens can stimulate immune system

C. All antigens are complex

D. Noneofthe above

10. Which of the following are good immunogens?

A. Carbohydrates

B. Proteins

C. Lipids

D. Amino acids

6. A	7. B	8. C	9. D	10. B

11. Which of the following are more immunogenic……..

A. Proteins < 10KDs

B. Simple peptides containing few epitopes

C. Complex proteins with numerous and diverse epitopes

D. Antigens withepitopes not accessible to theimmunesystem

12. Which of the following are T-cell independent antigens …..

A. Microbial proteins

B. Pneumococcal polysaccharide

C. Non-self Proteins

D. Altered selfproteins

13. Immunoglobulins are …….

A. Glycoproteins that mediate the humoral immunity.

B. Glycoproteins that mediate the cell mediated immunity.

C. Lipoproteins that mediate the humoral immunity.

D. Nucleoproteins that mediate the cell mediated immunity.

14. Antibodies are produced in ……..

A. Bonemarrow

B. Lymphoid tissue

C. Kidney

D. A&B

15. Regarding Fab all of the following is correct except ……..

A. Containwhole lightchain + VH+CH2

B. 2 in number

C. Has part for Ag recognition

D. Has part for Ag binding.

11. C	**12. B**	**13. A**	**14. D**	**15. A**

16. All of the following are properties of Fc except……

A. Tendto crystallize in solution

B. 1 in number

C. Contain remaining of both light chains C domain

D. GiveeffectorandbiologicalfunctionsofAb

17. Regarding antibodies structure which of the following is correct……..

A. It isa Y shaped moleculesof 3 polypeptide chains

B. It consists of 2 identical heavy chains and 2 different light chains

C. Heavy chain are connected with light chain by a hydrogen bond.

D. Hinge region is a flexible region liesbetween Fab &Fc togive mobility to both Fab

18. Two heavy chains of antibody are connected by……..?

A. Covalent bond

B. Disulfide bond

C. Ionic bond

D. Hydrogen bond

19. Immunoglobulins are divided according to the difference in structure of ……..?

A. Constant domains of heavy chain

B. Variable domains of heavy chain

C. Constant domains of light chain

D. Variable domains of light chain

20. ……antibody contains alpha heavy chains.

A. Ig G

B. Ig A

C. Ig M

D. Ig E

16. C	17. D	18. B	19. A	20. B

21. Regarding antibodies all of the following are correct except……:

A. Different classes of antibodies performdifferent effector

B. There are two types of light chains, kappa and lambda

C. An antibody has either 2 kappa or 2 lambda light chains or one of each.

D. Ig E contains epsilon heavy chains

22. Opsonization is mediated by……..?

A. Ig A

B. Ig G

C. Ig M

D. Ig E

23. Which of the following antibodies is responsible for Immediate hypersensitivity

A. Ig A

B. Ig G

C. Ig M

D. Ig E

24. Which of the following antibodies is responsible for Mucosal immunity…..?

A. Ig A

B. Ig G

C. Ig M

D. Ig E

25. IgM is responsible for…….

A. ADCC

B. 2ry immune response

C. 1ry immune response

D. Defense against parasites

21. C	22. B	23. D	24. A	25. C

26. Regarding Ig G all of the following is correct except ……:

A. It hasfour subclasses

B. It is secreted in a dimer form

C. Its serum concentration is 13.5 mg/ml

D. It is responsible for2ry immune response

27. Which of the following antibodies is secreted in a pentamer form…….. ?

A. Ig A

B. Ig G

C. Ig M

D. Ig E

28. ADCC is mediated by…….?

A. Ig A

B. Ig G

C. Ig M

D. Ig E

29. Function of Ig D include……..?

A. NaïveB cellantigenreceptor

B. Complement activation

C. Defense against parasites

D. Localimmunity

30. Which of the following antibodies can be membrane bound

A. Ig A

B. Ig G

C. Ig M

D. Ig E

26. B	27. C	28. B	29. A	30. C

31. Regarding monoclonal Antibodies all of the following is correct except……:

A. They are identical monospecific antibodies

B. They are produced by one type of immune cell

C. They are obtained from the blood of an immunized host

D. A&B

32. Applications of antibodies include…….. ?

A. Identificationof phenotypicmarkers

B. Immuno-diagnosis

C. Tumor diagnosis

D. Alloftheabove

33. Anti-CD3 antibody is used for…….?

A. Prevention of graftrejection

B. Prevention of asthma

C. Treatment of coagulopathy

D. None of the above

31. C	32. D	33. A

1. Characters of adaptive immunity include all of the following except……:

A. Firstline of defense

B. Develop as a response to infection

C. Specificity

D. Memory

2. Humoral immunity defence against……..

A. Extracellular microbes

B. Microbial toxins

C. Intracellular microbes

D. Allofthe above

3. Which of the following is mediated by antibodies?

A. Innateimmunity,

B. Cell mediated immunity,

C. Humoral immunity,

D. Noneof theabove

4. The major antibody class that is produced by the mucosa-associated lymphoid tissues……

A. Ig A

B. Ig M

C. Ig G

D. Ig E

5. The class of immunoglobulin with highest concentration in the blood of newborn

A. Ig A

B. Ig M

C. Ig G

D. Ig E

1. A	2. D	3. C	4. A	5. C

6. ADCC is process in which Ig G-coated infected cells are killed by…….?

A. Eosinophils

B. NK cells

C. Cytotoxic T cells

D. Neutrophils

7. Which of the following is true regarding 1ry humoral immune response

A. More rapidappearance ofAb

B. High in Magnitude

C. Mediated by Ig M Class

D. Remains detectablefor monthsoryears

8. Regarding 2ry humoral immune response which of the following is correct.

A. Develops when exposure to an antigenforthefirsttime

B. There is a lag of several days before specific antibody becomes detectable

C. Short Lived

D. Requires class switching from IgMto IgG

9. Cell mediated immunity defence against……..

A. Extracellular microbes

B. Microbial toxins

C. Intracellular microbes

D. Allofthe above

10. ……induce differentiation of helper T cells into Th1 ?

A. IL-12

B. IL-6

C. IL-4

D. IL-2

6. B	7. C	8. D	9. C	10. A

11. .....induce differentiation of helper T cells into Th2

A. IL-12

B. IL-6

C. IL-4

D. IL-2

12. Th 1 secretes .....

A. IFN-γ

B. IL-4

C. IL-5

D. IL-12

13. Which of the following has a role in stimulation of eosinophil and mast cell degranulation in allergy and helminthic reaction?

A. Cytotoxic Tcells

B. Th 1 cells

C. Th 2 cells

D. NK cells

14. Th 2 secretes .....

A. IFN- γ

B. IL-4

C. IL-5

D. B& C

15. .....kill any cell containing microbes or microbial proteins in the cytoplasm

A. Plasma cells

B. Cytotoxic T cells

C. Th 1 cells

D. Th 2 cells

11. C	12. A	13. C	14. D	15. B

16. B7 molecule on APCs binds to……

A. CD3 on T cells.

B. CD28 on T cells.

C. CD86 on T cells.

D. CD4 on T cells.

17. Inability of T helper activation due to absence of 2nd signal is called……

A. Deletion

B. Selection

C. Proliferation

D. Anergy

18. 1st signal activation of T cells is……..?

A. Recognition of peptide + MHC on the surface of APCs by TCR-CD28

B. Recognition of peptide + MHC on the surface of APCs by TCR-CD4 C.

Recognition of peptide + MHC on the surface of APCs by TCR-CD3 D.

Recognition of peptide + MHC on the surface of APCs by TCR-CD86

19. CD8+ T cell can recognize antigen in the form of peptide plus one of the following?

A. Class I MHC molecules

B. Class II MHC molecules

C. Class III MHC molecules

D. A&B

20. ……activates cytotoxic T cells to release their granule contents.

A. IL-2

B. IFN-γ

C. IL-4

D. A & B

16. B	17. D	18. C	19. A	20. D

21. Perforin produced by cytotoxic T cells ……:

A. Induce apoptosis ofthe targetcellthroughthe activation of caspases.

B. Form pores in the target cell membrane.

C. Block and prevent binding of microbe to cells

D. Inhibit the spread ofmicrobesfroman infectedcell to an adjacent cell

22. Granzymes produced by cytotoxic T cells ……..?

A. Induce apoptosis ofthe targetcellthroughtheactivation of caspases.

B. Form pores in the target cell membrane.

C. Block and prevent binding of microbe to cells

D. Inhibit the spread ofmicrobesfroman infectedcelltoan adjacent cell

23. Genes coding for MHC molecules are present on…..

A. Short arm of chromosome 3

B. Short arm of chromosome 9

C. Short arm of chromosome 6

D. Long arm of chromosome 6

24. Class II MHC present antigen to…..?

A. Th (CD4) cells

B. NK cells

C. Tc (CD8) cells

D. Monocytes

25. Class I MHC is present on the surface of…….

A. Th (CD4) cells

B. APCs

C. Tc (CD8) cells

D. All nucleated cell of the body

21. B	22. A	23. C	24. A	25. D

26. Class I MHC present antigen to……:

A. Th (CD4) cells

B. NK cells

C. Tc (CD8) cells

D. Monocytes

27. Class II MHC is present on the surface of ……. ?

A. Th (CD4) cells

B. APCs

C. Tc (CD8) cells

D. All nucleated cellofthebody

28. In class I MHC molecules ……form the peptide binding cleft?

A. α1 and α 2 domains

B. α 2 and α 3 domains

C. α 1 and α 3 domains

D. α 1 and β domains

29. In class II MHC molecules ……form the peptide binding cleft?

A. α1 and α 2domains

B. α 2 and β 1 domains

C. α 1 and β 2 domains

D. α 1 and β 1 domains

30. Class II MHC molecules are formed of……polypeptide chains

A. 2

B. 3

C. 4

D. 5

26. C	27. B	28. A	29. D	30. A

1. Regarding complement system which of the following is correct……:

A. It is a systemof circulatingandmembrane-associatedproteins

B. It functions only in innate immunity

C. Can be activated via 2 pathways only classical and alternative pathway

D. Complementproteins havenorole in opsonization andphagocytosis

2. Activation of lectin pathway of the complement system start by……..

A. Activating microbial surface suchaslipopolysaccharides

B. Immune complexes.

C. Membrane attack complex

D. Microbial mannose residues ofglycoproteins

3. The classical pathway of complement begins with…….?

A. Activation of C1

B. Cleavage and activation of C4, C2, C3

C. IgA binding to specific epitope

D. Production of C3convertase

4. The alternative complement pathway is Initiated by which of the following…….

A. Mannose contain residueson certainmicrobes

B. Stimulation of KAR of NK cells

C. The Ag-Ab complex

D. Cell surface componentsof microbesthataslipopolysaccharides

5. Classic pathway of complement is activated by ……

A. Cell-surfacecomponentsof microbe aslipopolysaccharides

B. Lectin

C. Antigen - Antibody (IgG, IgM) complex,

D. Macrophage

1. A	2. D	3. A	4. D	5. C

6. Which one of the following doesn't contain C3b .....?

A. Classical pathway C5 convertase

B. Alternative pathway C5 convertase

C. Classical pathway C3 convertase

D. Alternative pathway C3 convertase

7. Classical pathway C3 convertase is formed of .....

A. C4b2a

B. C4b2b

C. C4a2b

D. C4a2a

8. Classical pathway C5 convertase is formed of.....

A. C4b2b3b

B. C4b2a3b

C. C4a2b3a

D. C4b2a3a

9. Once MBL bind to mannose, it interacts with .....

A. MASP1

B. MASP2

C. MASP3

D. A&B

10. The most abundant serum complement component is.....?

A. C2

B. C3

C. C4

D. C5

6. C	7. A	8. B	9. D	10. B

11. C3bBb binds .....to produce stabilized alternative pathway C3 convertase

A. Factor B

B. Factor D

C. Factor P

D. C3b

12. Which of the following initiates the membrane attack complex.....

A. C5a

B. C5b

C. C3a

D. C3b

13. Which of the following homologous to "perforin" found in Tc and NK cell granules?

A. C3

B. C4

C. C5

D. C9

14. The terminal or lytic pathway can be entered from .....

A. The alternativepathway.

B. The mannan-binding lectin pathway.

C. The classical pathway.

D. Allof theabove

15. The membrane attack complex (MAC) is.....

A. C5b6789(n)

B. C5b678(n)

C. C3b6789(n)

D. C3b5679(n)

11. C	12. B	13. D	14. D	15. A

16. Which of the following complement component act as opsonin……

A. C2b

B. C3a

C. C3b

D. C4a

17. Complement components that stimulate inflammatory reactions includes ……

A. C3a

B. C4a

C. C5a

D. Allof theabove

18. Mediators and regulators of Innate Immunity Include……?

A. IL-1

B. IL-2

C. IL-5

D. IFN-γ

19. Mediators and regulators of adaptive immunity include……?

A. IL-12

B. IL-2

C. IL-3

D. IFN- β

20. Stimulators of hematopoiesis include……

A. IL-5

B. IFN-α

C. IL-7

D. TNF- α

16. C	17. D	18. A	19. B	20. C

21. Cytokines produced by leucocytes are called ……:

A. Monokines

B. Lymphokines

C. Interleukins

D. Noneofthe above

22. T lymphocytes produce all of the following except……..?

A. IL-1

B. IL-2

C. IL-5

D. IFN-γ

23. Which of the following is responsible for macrophage activation…..

A. TNF- α

B. IL-2

C. IL-5

D. IFN- γ

24. Which of the following is responsible for B cell isotype switch to Ig E …..?

A. IL-1

B. IL-4

C. IL-2

D. IL-5

25. Which of the following has an antiviral action and increase expression of class I MHC…….

A. IL-5

B. IL-7

C. IFN- α

D. TNF- α

21. C	22. A	23. D	24. B	25. C

26. IL-1 has a role in……:

A. Activation of neutrophils & inflammation

B. Activation of T & NK cells

C. Chemotaxis & migration of leukocytes into tissues

D. Bcellproliferation andeosinophilsactivation

27. Mediators and regulators of innate immunity include all of the following except…….

A. IL-1

B. IL-12

C. IFN- γ

D. Chemokines

28. Cytokines produced by macrophages are called?

A. Monokines

B. Lymphokines

C. Interleukins

D. Noneofthe above

29. The following can be used for immunosuppression except…….?

A. Cyclosporine&tacrolimus

B. Anti-CD3 monoclonal antibody

C. Anti-IL-2 receptor antibody

D. Aluminum salts

30. The following are mechanisms of action of adjuvant except…….

A. Prolong retention of Immunogen,

B. Increase influx of macrophage

C. Decrease release of local cytokines

D. None of the above

26. A	27. C	28. A	29. D	30. C

31. The following are Indications of immunosuppression except……:

A. Hypersensitivityresponses,

B. Dsgeorge syndrome

C. Autoimmune disease,

D. Aftertransplantation topreventrejection

32. All of the following are adjuvant except…….

A. Virosomes

B. Squalene

C. Aluminum salts

D. Corticosteroids

33. Which of the following is an oil-based adjuvant?

A. Virosomes

B. Squalene

C. Complete freund's adjuvant

D. Aluminum salts

34. All of the following can be used for immunopotentiation except…….?

A. Radiation

B. Virosomes

C. Incomplete freund's adjuvant

D. Aluminum salts

35. Most commonly used immunosuppressive drug for prevention of graft rejection is

A. Azathioprine

B. Cyclosporine

C. Corticosteroids

D. Mycophenolate mofetil

31. B	32. D	33. C	34. A	35. B

1. Regarding hypersensitivity which of the following is correct……:

A. It is a desirable reaction

B. It can be fatal

C. It is produced by the abnormal immune system

D. All of the above

2. Which type of hypersensitivity is a delayed reaction……..

A. Type I,

B. Type II

C. Type III

D. Type IV

3. Which type of hypersensitivity is known as anaphylactic hypersensitivity …….?

A. Type I,

B. Type II

C. Type III

D. Type IV

4. Type I hypersensitivity is mediated by……

A. Ig G

B. Ig M

C. Ig E

D. Ig D

5. Mechanism of type I hypersensitivity involves degranulation of……

A. Neutrophils

B. Eosinophils

C. Macrophages

D. Mast cells

1. B	2. D	3. A	4. C	5. D

6. Which one of the following is a mediator of immediate hypersensitivity .....?

A. Histamine

B. IL-12

C. TNF-α

D. Adrenaline

7. Histamine produces all of the following during immediate hypersensitivity except.....

A. Bronchoconstriction

B. Mucus secretion

C. Vasoconstriction

D. Vascularpermeability

8. Which of the following attract eosinophil and neutrophils during immediate hypersensitivity .....

A. Tryptase

B. ECF-A

C. Leukotriene B4

D. Prostaglandin D2

9. Which of the following attract basophil during immediate hypersensitivity .....

A. Tryptase

B. Leukotriene C4

C. Prostaglandin D2

D. Leukotriene B4

10. Which of the following mediators acts as histamine but is more potent .....?

A. Tryptase

B. Leukotriene C4

C. Leukotriene B4

D. Prostaglandin D2

6. A	7. C	8. B	9. D	10. B

11. All of the following mediators of immediate hypersensitivity are preformed in granules except.....

A. Histamine

B. Tryptase

C. Prostaglandin D2

D. ECF-A

12. Diagnostic tests for immediate hypersensitivity include.....

A. Skintest

B. Measurement of total Ig E by ELISA

C. Measurement of specific Ig E antibodies against the suspected allergen by ELISA

D. Alloftheabove

13. Treatment of type I hypersensitivity include all of the following except.....?

A. Avoidanceof exposure

B. Radiotherapy

C. Symptomatic treatment

D. Immunotherapy

14. Antigens producing type I hypersensitivity may be one of the following except .....

A. Selftissues& organs

B. Pollen grains

C. Fungal allergens

D. Antisepticspray

15. Chromolyn sodium .....

A. Block histamine receptors

B. Block leukotriene receptors

C. Inhibits mast cell degranulation

D. None of the above

11. C	12. D	13. B	14. A	15. C

16. Late onset allergic symptoms of immediate hypersensitivity can be treated with..

A. Antihistamines

B. Chromolyn sodium

C. Leukotriene receptor blockers

D. Noneofthe above

17. Goal of immunotherapy of immediate hypersensitivity is to……

A. Stopthe production of IgM.

B. Increase allergen-specific IgG4 antibodies

C. Increase the release of inflammatory mediators from mast cells

D. Allofthe above

18. Which type of hypersensitivity depends on cell mediated immunity……..?

A. Type I,

B. Type II

C. Type III

D. Type IV

19. Which of the following is a type II hypersensitivity reaction……?

A. Erythroblastosis Fetalis,

B. Arthus reaction,

C. Serum sickness

D. Tuberculintest

20. Which of the following is a type III hypersensitivity reaction ……

A. Incompatible bloodtransfusion

B. Autoimmune hemolytic anemia

C. Arthus reaction,

D. Tuberculin test

16. C	17. B	18. D	19. A	20. C

21. Serum sickness is an example of ……:

A. Type I hypersensitivity

B. Type II hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

22. Autoimmune hemolytic anemia is an example of ……..?

A. Type I hypersensitivity

B. Type II hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

23. Incompatible blood transfusion is an example of …..

A. Type I hypersensitivity

B. Type II hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

24. Tuberculin test is an example of…..?

A. Type I hypersensitivity

B. Type II hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

25. Antigens in type IV hypersensitivity are…….

A. Self tissues & organs

B. Cell surface antigens

C. Soluble antigens

D. Drugs

21. C	22. B	23. B	24. D	25. A

26. Hypersensitivity to soluble antigens is mediated by……:

A. Ig G

B. Ig A

C. Ig E

D. Ig D

27. An Rh negative mother gives birth to an Rh positive infant who was completely normal. At the birth of a second Rh positive infant, he showed anemia and jaundice at the first day. This occurred due to…….

A. Type I hypersensitivity

B. Type II hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

28. A 35 year old male was exposed to a snake bite for which he was treated with snake antivenom derived from horses, 5–10 days later he developed rash, joint pain, fever, and lymphadenopathy. This occurred due to?

A. Type I hypersensitivity

B. Type II hypersensitivity

C. Type III hypersensitivity

D. Type IV hypersensitivity

29. Regarding tuberculin reaction which of the following is correct…….?

A. It peaks 48 hoursafter the injectionof antigen

B. The lesion is characterized by induration and erythema

C. It is a type IV hypersensitivity reaction

D. All of the above

30. Type III hypersensitivity occurs within…….

A. Seconds

B. Minutes to hours

C. 3-8 hours

D. 48-72 hours

26. A	27. B	28. C	29. D	30. C

1. .....is the state of unresponsiveness to self-antigens?

A. Autoimmunity

B. Immunological tolerance

C. Immunopotentiation

D. Immunosuppression

2. Antigen that induces immunological tolerance is called.....

A. Tolerogen

B. Immunogen

C. Hapten

D. Mutagen

3. Regarding immunological tolerance which of the following is correct.....?

A. It is specific and withoutimmunologicalmemory,

B. It can exist in T-cells, B cells or both.

C. It can be broken only artificially

D. All of the above

4. Which of the following can break immunological tolerance .....

A. Autoimmunediseases

B. X ray irradiation,

C. Exposure to cross reactive antigens

D. All of the above

5. Auto-reactive T-cells are eliminated in the thymus following interaction with self-antigen during their differentiation represents.....

A. Clonal deletion

B. Clonal anergy

C. Clonal ignorance

D. Receptor editing

1. B	2. A	3. B	4. D	5. A

6. All of the following are theories for immunological tolerance except .....?

A. Clonal deletion

B. Clonal anergy

C. Receptor editing

D. Escape of auto-reactiveclones

7. B cells when exposed to large amounts of soluble antigen down regulate their surface IgM represents.....

A. Clonal deletion

B. Clonal anergy

C. Clonal ignorance

D. Receptorediting

8. B cells which encounter a self Ag.....

A. Bind tothisantigen withhigh affinity

B. Don't change their specificity.

C. Undergo DNA recombination

D. Allof the above

9. Which of the following can lead to termination of tolerance .....

A. Prolongedabsence ofexposure to thetolerogen.

B. X ray irradiation

C. Immunization with cross reactive antigens.

D. All of theabove

10. T cells reactive to self-antigen may never encounter the appropriate antigen because it is sequestered. This represents.....?

A. Clonal deletion

B. Clonal anergy

C. Clonal ignorance

D. Receptor editing

6. D	7. B	8. C	9. D	10. C

11. Which of the following cells have a role in immunological tolerance .....

A. Macrophages

B. Cytotoxic T cells

C. Suppressor T cells

D. HelperTcells

12. Failure of the ability to discriminate between self and non-self-antigens is.....

A. Autoimmunity

B. Immunological tolerance

C. Immunopotentiation

D. Immunosuppression

13. Etiology of autoimmunity include all of the following except.....?

A. Sequesteredantigen

B. Escape of auto-reactive clones

C. Cross reactive antigens

D. Lack of helper T cells

14. Sequestered antigen theory that illustrate autoimmunity means.....

A. Deficiency of Tsuppressor cells

B. Release of late-developing antigens or antigens confined to specialized organs

C. Antigens on certain pathogens may cross react with self-antigens

D. Escape of someautoreactivecellsfrom negative selection process inthethymus

15. Which of the following is a non-organ-specific autoimmune disease.....

A. Hashimotothyroiditis.

B. Type I diabetes mellitus

C. Systemic lupus erythematosus

D. Autoimmune hemolytic anemia

11. C	12. A	13. D	14. B	15. C

16. Which of the following is a systemic autoimmune disease..

A. Hashimotothyroiditis.

B. Type 2 diabetes mellitus

C. Rheumatoid arthritis

D. Autoimmune thrombocytopenia

17. Which of the following is an organ-specific autoimmune disease .....

A. Hashimotothyroiditis.

B. Type 2 diabetes mellitus

C. Rheumatoid arthritis

D. Systemiclupus erythematosus

18. All of the following contain sequestered antigens except.....?

A. Testes,

B. Brain,

C. Eye

D. Spleen

19. Failure of negative selection in the thymus to eliminate self-reactive cells can lead to.....?

A. Autoimmunity

B. Immunological tolerance

C. Immunopotentiation

D. Immunosuppression

20. Deficiency of ..... can lead to autoimmunity

A. B cells

B. T suppressor cells

C. T helper cells

D. T cytotoxic cells

16. C	17. A	18. D	19. A	20. B

21. .....means that antigens on certain pathogens may have determinants which cross react with self-antigens?

A. Sequesteredantigen

B. Cross reactive antigens

C. Clonal deletion

D. Clonal anergy

22. Diagnosis of autoimmune diseases is done by.....?

A. Symptoms

B. Detection of antibodies reactive against self-antigens.

C. Detection of sequestrated antigens

D. A&B

23. Which of the following can be used in the treatment of autoimmune diseases .....

A. Adrenaline

B. Theophylline

C. Corticosteroid

D. Chloroquine

24. Tumours can mediate death of T cells by apoptosis by secreting .....?

A. Fas ligand

B. Transforming growth factor β

C. IL-2

D. INF- α

25. Which of the following can lead to tumor formation due to escape from immuno-surveillance .....

A. Good expression of MHCantigen

B. Failure to express co-stimulatory molecules

C. Expression of neo antigens

D. Lack of stimulation of regulatory T cells

21. B	22. D	23. C	24. A	25. B

1. Bone transplanted from one location to another is an example of……?

A. Autografts

B. Isografts

C. Allografts

D. Xenografts

2. Isografts are……..

A. Graft from one location to another location in the same member

B. Grafts between members of the same species with identical genetic makeup

C. Grafts from members of the same species

D. Grafts From members of different species

3. Grafts from members of the same species without identical genetic makeup is …?

A. Autografts

B. Isografts

C. Allografts

D. Xenografts

4. Grafts from animal to human is called……

A. Autografts

B. Isografts

C. Allografts

D. Xenografts

5. Regarding hyper acute graft rejection which of the following is correct……

A. Occurs after extended periodof grafttransplantation

B. It is due to preformed antibodies

C. Effectors are primarily Cytotoxic T lymphocytes (CD8 T cells).

D. Organ failure is due to chronic toxicity of anti-rejection drugs.

1. A	2. B	3. C	4. D	5. B

6. Regarding chronic graft rejection which of the following is correct .....?

A. Occurs after extended period of graft transplantation

B. Effectors are usually Th1 cells that activate macrophages to cause tissue injury & scarring

C. Organ failure is due to chronic toxicity of anti-rejection drugs

D. Allofthe above

7. Acute graft rejection occurs within .....

A. Few hours after transplantation.

B. 5-10 days after transplantation

C. 10-20 days after transplantation

D. 6months after transplantation

8. Effectors of acute graft rejection are.....

A. Th 1 cells

B. Cytotoxic T cells

C. Macrophages

D. Antibodies

9. Acute graft rejection occurs due to .....

A. Grafts containpassengerleukocytes

B. Natural antibodies to blood type Ag

C. Anti-MHC antibodies formed in response to blood transfusions

D. Uptake of graftAg by recipient Agpresenting cells and presentation on self MHC

10. Chronic graft rejection occurs due to.....?

A. Grafts containpassengerleukocytes

B. Natural antibodies to blood type Ag

C. Anti-MHC antibodies formed in response to blood transfusions

D. Uptake of graft Ag by recipient Ag presenting cells and presentation on self MHC

6. D	**7. C**	**8. B**	**9. A**	**10. D**

11. The ideal donor of grafts is .....

A. Identical twin

B. Non-identical twin

C. Second degree relative

D. Non-HLA matched sibling

12. The most important factor for graft donor selection is.....

A. Good health ofthe donor

B. Donor MHC identity with the recipient

C. Age of the donor

D. None of the above

13. Which of the following should be given to the graft recipients .....?

A. Prophylactic anticoagulants

B. Adjuvants

C. Prophylactic antibiotics

D. Alloftheabove

14. Stem cell transplantation can be used in the treatment of .....

A. Leukemia,

B. Lymphoma

C. Multiple myeloma

D. Allofthe above

15. Graft-versus-host disease usually occurs after.....

A. Bone marrowtransplantation

B. Kidney transplantation

C. Liver transplantation

D. Lung transplantation

11. A	12. B	13. C	14. D	15. A

16. Regarding graft-versus-host disease which of the following is correct..

A. Occurswhen thegraft containsimmunologicallycompetentcells

B. The response occurs to both MHC and minor H antigens

C. Symptoms include rashes, diarrhea and pneumonitis

D. Allof theabove

17. Failure of the immune system to protect against disease or malignancy .....

A. Immunological tolerance

B. Immunodeficiency

C. Autoimmunity

D. Immunomodulation

18. Primary immunodeficiencies occurs due to.....?

A. Inherited defectsof theimmunesystem,

B. Viral and bacterial infection.

C. Malignancies

D. Metabolic disorders

19. Transplantation involving tissue from two brothers possessing identical HLA genes is best described by which one of the following .....?

A. Allograft

B. Autograft

C. Isograft

D. Xenograft

20. Severe combined immunodeficiency primarily affects.....

A. Macrophages,mast cells andTcells

B. T cells only

C. T cells and dendritic cells

D. T cells, B cells

16. D	17. B	18. A	19. C	20. D

21. People who have a primary immunodeficiency disease are most at risk for which of the following?

A. Heartdisease

B. Cancer

C. Diabetes

D. Infections

22. Which of the following is NOT a cause of secondary immunodeficiency ……..?

A. Lack ofT cells due tomutationswhicharrestdevelopmentofthethymicepithelium

B. Viral and bacterial infection.

C. Malignancies

D. AIDS

23. DiGeorge syndrome is…..

A. B-cell disorder

B. T-cell disorder

C. Combined B- and T-cell disorder.

D. Macrophage and NKdisorder

24. Most common cause of primary immune deficiency…..?

A. B cell defect.

B. T cell defect.

C. Combined B and T cell defect.

D. Macrophage and NKdefect

25. Regarding T-cell disorders which of the following is correct…….

A. Account for about 5 to10% ofprimaryimmunodeficiency

B. Can cause antibody deficiencies

C. The most common T-cell disorders are DiGeorge syndrome (absent thymus)

D. All of the above

21. D	22. A	23. B	24. A	25. D

26. The most common B-cell disorder is……?

A. Selective Ig A deficiency

B. Selective Ig M deficiency

C. Selective Ig G deficiency

D. Selective Ig D deficiency

27. Immunological deficiency associated with AIDS occurs due to decrease ……..?

A. T helper below <500/cmm

B. T helper below <200/cmm

C. T cytotoxic below <200/cmm

D. T cytotoxic below <500/cmm

28. Immunodeficiency associated with aging occurs due to…..

A. Viraland bacterial infection

B. Diabetes mellitus

C. Reduction size of thymus

D. Malignancies

29. Treatment of immune deficiency includes…..?

A. Intravenousgammaglobulin

B. Bone marrow transplantation

C. Gene therapy

D. All of the above

26. A	27. B	28. C	29. D

1. Immunization can be achieved by……?

A. Exposure to thelivepathogenfollowed by recovery

B. Vaccination

C. Transfer of antibodies from mother to fetus

D. Allofthe above

2. Immunization is temporary in which of the following methods……..

A. Exposure to thelivepathogenfollowed byrecovery

B. Vaccination

C. Transfer of antibodies from mother to fetus

D. Allofthe above

3. Which of the following results in the generation of memory cells providing long-lived protection?

A. Vaccination

B. Injection of antiserum against a pathogen

C. Transfer of antibodies from mother to fetus

D. Allofthe above

4. Characteristics of an ideal vaccine include all of the following except……

A. High efficacyintargetpopulations.

B. Produce temporary immunization

C. Few or no adverse reactions.

D. Safe in immune-compromised individuals & pregnant women.

5. Ideal vaccine should……

A. Be difficult &expensive to deliver to developing countries.

B. Be liable to damage during transport & storage

C. Stimulate both humoral & cell mediated immune responses

D. Induces short-lived immunity

1. D	2. C	3. A	4. B	5. C

6. Regarding live attenuated vaccine which of the following is correct .....?

A. It involvesexposingvirulentmicroorganism to chemicalor physical agents

B. Host immune response resembles what occurs after natural infection

C. It is safe for immune-compromised persons and pregnant women

D. All of the above

7. All of the following are live attenuated vaccines except.....

A. BCG vaccine

B. OPV vaccine

C. Cold-adapted influenza vaccine

D. Salk vaccine

8. Which of the following live attenuated vaccines uses related virus from heterologous host?

A. Human smallpox vaccine

B. Sabine oral polio vaccine

C. BCG vaccine

D. Cold-adapted influenza vaccines

9. Source of BCG vaccine is.....

A. Naturallyoccurring attenuated virus strain.

B. Related virus from heterologous host

C. Serial passage in heterologous host/cultured cells

D. Selectionof cold-adaptedmutants

10. Smallpox virus in humans is antigenically related to.....?

A. Dogpox virus

B. Cowpox virus

C. Swine pox virus

D. None of the above

6. B	7. D	8. A	9. C	10. B

11. All of the following are advantages of live attenuated vaccines except.....

A. Goodcell mediatedimmunity

B. Can be administered orally

C. Duration of immunity is usually many years

D. Number of virusesneeded invaccine dose ishigh

12. Regarding live attenuated vaccines which of the following is correct.....

A. Nopossibility ofreversiontovirulentvirus.

B. Safe for immune-compromised persons and pregnant women

C. Single dose is usually needed

D. Booster doses arerequired

13. Which of the following is correct regarding killed vaccines .....?

A. Itinvolvesexposing virulentmicroorganism to chemicalorphysicalagent

B. The microorganism loses infectivity but retains immunogenicity

C. Inactivated Influenza vaccine is an example

D. Allof theabove

14. Which of the following is an inactivated vaccine .....

A. Sabinepolio vaccine

B. Salk polio vaccine

C. BCG vaccine

D. DPT vaccine

15. Regarding killed vaccines which of the following is correct .....

A. Nopossibility of reversion to virulentvirus.

B. Safe for immune-compromised persons and pregnant women

C. Multiple doses are needed

D. All of the above

11. A	12. C	13. D	14. B	15. D

16. All of the following is correct regarding inactivated vaccines except……

A. Immune response is shorter in durationthan live attenuatedvaccines

B. Weak cell mediated immunity and mucosal immune response

C. Number of viruses needed in vaccine dose is low

D. Booster dosesare required

17. ……. involve using only specific, purified macromolecules derived from the pathogen?

A. Liveattenuatedvaccines

B. Subunit vaccines

C. Inactivated vaccines

D. DNAVaccination

18. Which of the following is a recombinant antigen vaccine……..?

A. DPT vaccine

B. BCG vaccine

C. Hepatitis A vaccine

D. Hepatitis B vaccine

19. Which of the following is a subunit vaccine ……?

A. DPT vaccine

B. BCG vaccine

C. Hepatitis A vaccine

D. AstraZeneca vaccine

20. Which of the following vaccines consists of inactivated exotoxins ……

A. DPT vaccine

B. BCG vaccine

C. Hepatitis B vaccine

D. Hemophilus influenzae type B vaccine.

16. C	17. B	18. D	19. A	20. A

21. Regarding hemophilus influenzae type B vaccine which of the following is correct?

A. Thereis possibilityof reversion tovirulent virus.

B. It is not safe for immune-compromised persons and pregnant women.

C. It induces good cell mediated immunity

D. It consists of capsular polysaccharides

22. Which of the following is a recombinant vector vaccine ……..?

A. Humanpapilloma virusvaccine

B. Hepatitis B vaccine

C. AstraZeneca vaccine

D. DPTvaccine

23. Which of the following is a virus-like Particle vaccine …..

A. Humanpapilloma virusvaccine

B. Hepatitis B vaccine

C. Hib vaccine

D. DPT vaccine

24. All of the following are considered subunit vaccines except…..?

A. Humanpapilloma virusvaccine

B. AstraZeneca vaccine

C. Hepatitis B vaccine

D. Hibvaccine

25. Regarding recombinant vector vaccines which of the following is correct…….

A. It is considered a typeofsubunitvaccines.

B. It involves using recombinant-DNA technology to produce large amounts of capsid proteins of certain non-enveloped viruses

C. It induces both humoral and cell mediated immune responses

D. All of the above

21. D	**22. C**	**23. A**	**24. B**	**25. C**

26. AstraZeneca vaccine uses…… as a vector?

A. Adenovirus

B. Human papilloma virus

C. Rota virus

D. Epstein bar virus

27. Regarding subunit vaccines which of the following is correct……..?

A. Nopossibilityof reversionto virulent virus.

B. Safe for immune-compromised persons and pregnant women

C. They are unable to activate Th cells

D. Allof the above

28. Which of the following vaccines is contraindicated in pregnancy…..

A. Salk vaccine

B. DPT vaccine

C. BCG vaccine

D. HepatitisBvaccine

29. Regarding DNA vaccine which of the following is correct?

A.Itinvolvesusing recombinantDNAtechnology to insertgene encoding a protective Ag into genome of non-pathogenic bacterial or viral vectors

B. Multiple Ags of different microorganisms can be included in single plasmid.

C. Multiple doses are required

D. Doesn't produce cellmediatedimmune response

30. Reversion to virulence can occur with…..

A. Live attenuatedvaccines

B. Inactivated vaccines

C. DNA vaccines

D. Subunit vaccines

26. A	**27. D**	**28. C**	**29. B**	**30. A**

31. Which of the following vaccines is indicated in all HCP?

A. Hepatitis C vaccine

B. Hepatitis B vaccine

C. Rubella vaccine

D. Hibvaccine

32. Serologic testing is performed after.....of the third dose of hepatitis B vaccine?

A. 1 week

B. 1 month

C. 2 months

D. 3 months

33. Which of the following vaccines is indicated in un-immunized women of childbearing age?

A. Salk vaccine

B. DPT vaccine

C. BCG vaccine

D. Rubellavaccine

34. Booster dose in tetanus toxoid vaccine is recommended every.....?

A. 2 years

B. 5 years

C. 10 years

D. 15 years

35. Which of the following requires booster doses.....

A. Inactivatedinfluenzavaccine

B. OPV

C. BCG vaccine

D. Hepatitis B vaccine

31. B	32. C	33. D	34. C	35. A